

**EFSA OPINION ON NURIENT PROFILES**  
**AJN ISSUES AND COUNTER ARGUMENTS**

We need a description of the table – how it is set up and what it is meant for

	100% fruit juice	Nectars	Juice drinks	Vegetable juices
Dental caries/ erosion	yes	yes	yes	no
Total sugars	yes	yes	yes	no
High frequency of consumption	possibly	possibly	yes	no
Weight Gain	Not convincing	Not convincing	Not convincing	no
Obesity	Not convincing	Not convincing	Not convincing	no
Sodium - High blood pressure and risk of heart disease	no	no	no	yes
Presence of vitamins and minerals	yes	possibly	possibly	yes
Prevention of cardiovascular disease	Possibly	Possibly	no	no
Prevention of cancer	Possibly	Possibly	no	no
Presence of dietary fibre	possibly	possibly	possibly	possibly

**POSITIVE ASPECTS OF FRUIT JUICES**

**Reduction of the risk of cardiovascular disease and cancer**

Review of scientific literature shows that when considering cancer and coronary heart disease prevention, there is no evidence that pure fruit and vegetable juices are less beneficial than whole fruit and vegetables.

This was confirmed by a review of the available scientific evidence that was recently published<sup>1</sup>.

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<sup>1</sup> *International Journal of Food Science and Nutrition (2006) in “Can pure fruit and vegetable juices protect against cancer and cardiovascular disease too? A review of the evidence”.*

This seems logic as most of the beneficial substances that are naturally present in fruits and vegetables are also present in the juice. The positive impact fruits and vegetables offer does not come from just the fiber but also from antioxidants and other beneficial components which are present in both juice and the whole fruit and vegetables.

This is the reason why fruit juices, which are derived 100% from fruit, have been endorsed as a valuable contribution to a healthy diet and there is general agreement that a 150ml serving is equivalent to a daily portion of fruit.

### **Presence of vitamin and minerals and other beneficial components**

Fruits and vegetables are generally considered to be important sources of vitamins, minerals, dietary fibre and other food components with a beneficial effect on health. Most of these positive nutrients and substances are present in the juice of the fruit. Depending on the amount of pulp, even dietary fibre can be part of a fruit juice. In general fruit juices range amongst the most important sources of Vitamin C, folate, potassium and polyphenols with antioxidant properties in the diet.

Fruit juices are therefore considered by many countries as 1 portion of the daily fruit and vegetable intake, as part of 5-a-day campaigns or national dietary recommendations. The majority of European countries (UK, France, Germany, Sweden, Austria, Finland, Netherlands, Belgium, Poland, Norway, Ireland, Denmark, Norway, Italy, Spain) have adopted dietary guidelines including 5-a-day recommendation. In addition DG Agri is trying to develop a Fruit School Scheme in order to promote the consumption of fruits and vegetables including fruit juices.

Also the World Cancer Research Fund promotes year-round consumption of a variety of vegetables and fruits, translating to five or more servings of fruit and vegetables daily (or 7% or more total energy), whereby fruit juice can count as one serve.

This is consistent with the scientific findings that show that consumption of 400 g/day or more of a variety of vegetables and fruits have the potential to decrease the overall incidence of cancer and cardiovascular disease such as stroke (see blow).

Despite these recommendations it is observed in many food consumption surveys that the intake of fruit and vegetables in a large part of the population falls well below recommended levels and hardly reaches intake of two portions per day. This is of particular importance in children and adolescents.

Fruit juice consumption has been reported to be a significant source of Vitamin C and of a number of essential minerals and other health-giving constituents, e.g. anti-oxidants and folate in children and adolescents and

have suggested that the consequences for the nutritional status would be dramatic if the consumption of fruit juice would be discouraged.

In this light, the added value of fruit and vegetable juices in covering the intake of the nutrients and other beneficial components found in fruit and vegetables gains even more importance.

These arguments illustrate the important role fruit juice plays in helping people achieve their daily recommended intake for fruit and the necessity to be able to communicate these aspects to the consumer.

### **Presence of dietary fibre**

Some fruit juices and nectars currently available on the market contain dietary fibre and as such, can provide an additional fibre source to help optimize overall fibre intake. In fact, some fruits cannot be pressed to extract the juice. In such cases the juice is made from pulped fruit with addition of water and/or sugar to make the product palatable. These nectars are therefore sources of dietary fibre.

Increasing dietary fibre has been linked to lower rates of obesity, cardiovascular disease, diabetes and certain cancer.

## **NEGATIVE ELEMENTS AND COUNTER ARGUMENTATION**

### **Dental erosion and caries:**

Concerns have been raised that the acid and sugar content of fruit juice could have a deleterious effect on dental health. The consumption of fruit juice as part of a balanced diet can be compatible with good dental health because of following reasons:

- All naturally occurring sugars and fermentable carbohydrates are potentially cariogenic and a diet devoid of these nutrients would of course not be feasible. It is clear that despite the presence of sugars in the diet dental health can be maintained, if such foods are consumed appropriately as part of a healthy diet along with good oral hygiene practices.
- The main factor leading to dental erosion and caries is the frequency of consumption, rather than the absolute amount of sugars and the acidity of the product. Other factors that affect the development of caries include the form of the food, its overall composition, the sequence of eating, the salivary flow, the presence of buffers, the use of fluoride, etc. The main preventive factor for the development of caries obviously is appropriate oral hygiene.
- Dental caries is not directly linked to sugar exposure. Lower levels of dental caries are not necessarily linked with low sugar consumption. Similarly higher consumption of sugar does not necessarily equate to more dental caries.
- There is not much difference between fruit and fruit juice in the composition and effect on teeth. There is also no difference in the amount of sugar and

acid generated in the saliva between raw whole fruit and fruit that has been pulped.<sup>2</sup>

- There are easy and very effective means for maintaining dental health, which include teeth brushing and the use of appropriate sources of fluoride (fluoridated tooth paste, fluoridated water).

The benefits of fruit and fruit juice consumption outweigh by far the potential negative effect on teeth, providing basic principles of dental hygiene are respected.

### **Total sugar/ added sugars**

The sugar content of fruit juices should not be an issue for following reasons:

100% fruit juices:

- The sugars present are naturally occurring and impossible to remove.  
- Therefore the sugar present is equivalent to the natural content of the original fruits.

Nectars and fruit-juice based drinks:

- Sugar is sometimes needed to obtain a drinkable juice, especially in case where:

- The fruits cannot be pressed to extract the juice. In such cases the juice is made from pulped fruit and sugar is added to make the product palatable.
- The juice in its natural state is not palatable (too acid or too concentrated) to be drunk as such and sugar is needed to correct the sweetness and make the product palatable.

- In most cases the total amount of sugars present will be comparable with the natural sugar content of 100% pure fruit juice.

- Such products can contribute to the daily intake of fruit and vegetables and manufacturers would need to retain the possibility to communicate on the health benefits without nutrient profiling restricting this possibility.

### **Weight gain - Obesity**

Fruit juice can contribute significantly to the intake of range of nutrients and other components such as antioxidants.

The EFSA scientific opinion on setting of nutrient profiles published in February 2008 clearly showed that there is no convincing evidence for causal links between the intake of processed fruits and vegetables and obesity. In fact, the relation between fruit juice consumption and weight gain is very weak for a number of reasons:

- The average energy content of a fruit juice shows that fruit juice is not energy-dense, in fact it is less than that of milk.

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<sup>2</sup> Beighton D., *et al* (2004) Intra-oral acid production associated with eating whole or pulped raw fruits *Caries Research* 38: 341-349

- The average juice consumption per day is less than 100 ml, representing a contribution to the daily energy intake of less than 2-3%.
- A number of individuals do have higher intakes, as is the case with all dietary components. However, this reinforces the importance of sensible fruit juice consumption as part of a balanced diet with regular physical activity and should not lead to the penalization of a whole product category because of extreme behavior of a small portion of fruit juice users.
- A number of recent research studies have specifically looked at a possible relationship between 100% juice consumption and its potential impact on body weight, especially in children. Most of these studies find no connection with consumption of fruit juice up to 340 ml per day.
- On the contrary it appears that people who consume fruit juice were found to have healthier overall diets than those who do not consume fruit juices, with intakes of fat, saturated fat, sodium, added sugars and added fats lower in the juice consuming group.
- The average energy contribution of fruit juice across all age segments of the population is consistent with a healthy diet and unlikely to be a causal factor in the development of obesity.

### **Sodium – High blood pressure and risk of heart disease:**

Fruit juices are recognised to have negligible amounts of sodium, saturated fats and cholesterol. This is therefore not an issue.

The presence of added sodium in vegetables juices is generally determined by reasons of palatability. The positive nutrients present in the products may outweigh potential negative effects of sodium consumption. The consumption of fruit and vegetables in itself has been clearly shown to have protective health effects.