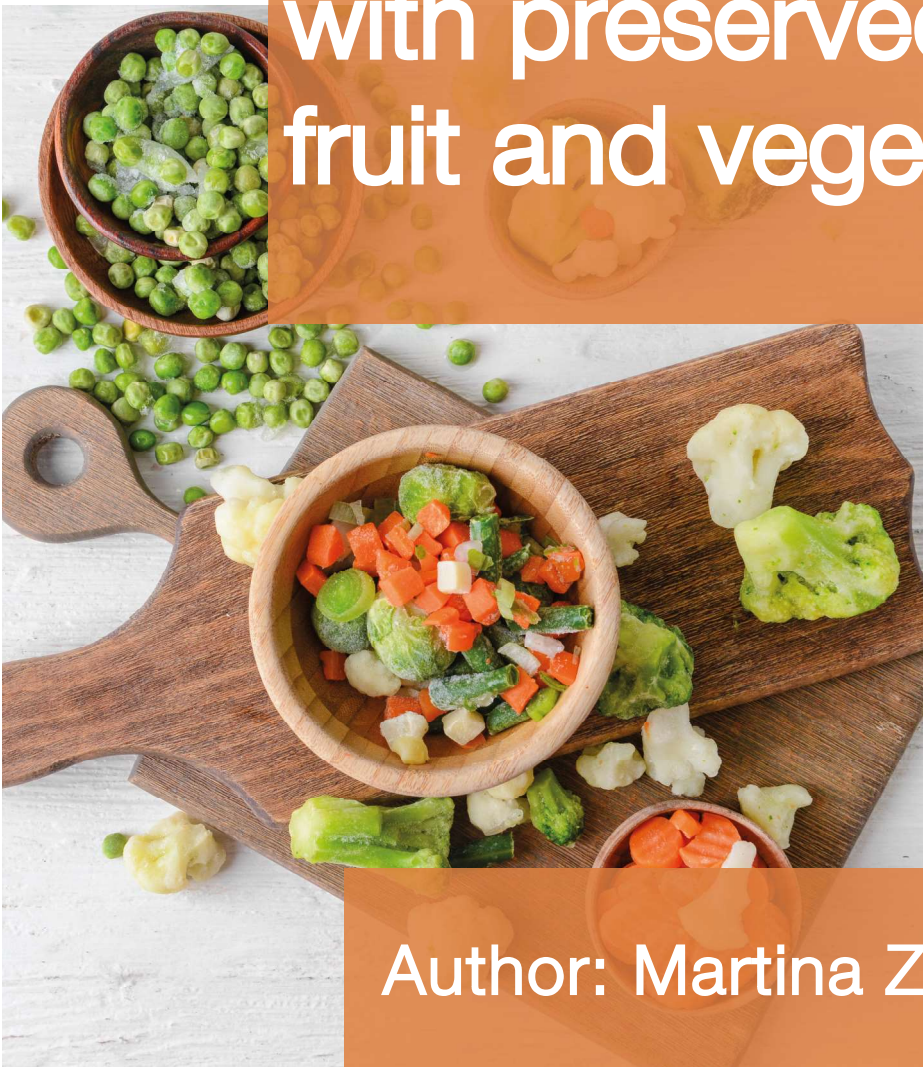


Improving the quality
of your daily diet
with preserved
fruit and vegetables



Author: Martina Zurli
Certified Nutritionist



How much fruit and vegetables are needed in a healthy diet?

Major health and nutrition organisations such as WHO and FAO, recommend having at least 400 grams of a variety of fruits and non-starchy vegetables per day. This roughly corresponds to 5 portions per day. The dietary guidelines of most European countries suggest the consumption of at least 400-500 grams of fruit and vegetables, corresponding to 5-6 portions. The Dietary Guidelines for Americans (DGA) advise choosing a variety of vegetables from all of the vegetable subgroups.

Furthermore, according to the EAT-Lancet Commission, a plate which is both **sustainable** and **healthy** should consist of a volume of approximately half of vegetables and fruits, aiming to have an average of at least 300 grams of vegetables and 200 grams of fruit daily.



Is the diet of European citizens adhering to the recommendations? Not really.

In 2019, 1 out of 3 people in the EU reported no daily consumption of fruit or vegetables. Over half of people consumed from 1 to 4 portions and only 12% consumed 5 portions or more on a daily basis.

Variety is as important as quantity also because no single fruit or vegetable provides all of the nutrients you need to be healthy. **Processed fruit** and **vegetables** such as canned and frozen, are a great asset in increasing fruit and vegetables variety.

After being harvested, fresh fruit and vegetables start to lose their nutrients through respiration, photodegradation, oxidation and dehydration.

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Nutrients in fruit and vegetables are at their peak right after being picked. Before being frozen or canned, fruit and vegetables are allowed to fully ripen and then they are processed in the shortest period of time possible. This is why they lose a minimal amount of nutrients. The contents of carotenoids, vitamin E, minerals, and fibre contained in **frozen** and **canned foods** are generally similar to fresh products. Vitamin C and the B vitamins are relatively stable during canned storage due to the lack of oxygen and the inactivation of degradation enzymes during processing inhibits the breakdown of vitamin C and other antioxidants.

A study conducted by the researchers at Leatherhead Food Research and the University of Chester compared the nutrient content of **frozen** and fresh fruit and vegetables stored in the refrigerator for 3 days.



Frozen products, particularly **frozen soft fruits**, tend to be higher in nutrients. Levels of Vitamin C, and antioxidants, including polyphenols, anthocyanins, lutein, and beta-carotene are generally higher in **frozen** products.

Furthermore, **frozen** fruit and vegetable can last up to 8-12 months in your freezer and allow you to use only the amount you need, avoiding food waste.





“The contents of **carotenoids, vitamin E, minerals, and fibre** contained in frozen and canned foods are generally similar to fresh products.”

Canning allows storing food for a long time. The fruit and vegetables undergo minimum processing (e.g., washing, peeling, cutting and blanching) followed by canning, which involves heating at high temperatures to increase their shelf-life.

A US study showed that the consumption of **canned fruit** and **vegetables** was associated with higher diet quality and higher intake of certain nutrients. For instance, vitamin A, calcium, and magnesium intakes were higher in children, and fibre and potassium intakes were higher in both children and adults. Furthermore, in this study, consumers of **canned fruit**

and **vegetables** did not consume more sodium than nonconsumers, showing that the sodium content of those products is not a concern. Therefore, **canned fruit** and **vegetables** can be a great addition to improve diet quality.

Both **canned** and **frozen** vegetables require minimum preparation, they are convenient and affordable. Therefore they play an important role to help meeting the recommended amount of at least 400-500 grams of fruit and vegetables recommended by most health agencies and dietary guidelines of EU countries, with minimal time and effort for meal preparation.

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PROFEL
European association of
fruit and vegetables
processors

Avenue de Nerviens
9-31 1040 Brussels

<https://profel-europe.eu/>
+32 2 500 87 59
profel@profel-europe.eu

