

## Vegetables are Known in Attainment of Nutrition Security of the Society What about Fruits: Short Systematic Review

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### Abstract

The review is assessed in Debre Berhan University College of Agriculture and Natural Resource Science and focused on the importance of fruits to attain nutrition security. The production of horticultural crops like fruits is economically rewarding. The production of horticultural crops has a great significance for the attainment of food and nutritional security. Fruits often contain a number of essential nutrients like carbohydrates, energy, vitamins, minerals dietary fiber, and phyto-chemicals. A nutrient rich fruit can lower blood pressure, reduce risk of heart disease and stroke, prevent some types of cancer, lower risk of eye and digestive problems, and have a positive effect upon blood sugar. The production of fruits becomes more important for developing countries where highly prevalent malnutrition makes nutritional security an important public health concern. Therefore, to sum up the inclusion of fruits in our diet is one of the approaches to address for the attainment of nutrition security and health of the society.

**Keywords:** Fruit; Nutrition Security; Vegetables

### Brief Introduction

Botanical the term Fruit refers to the mature ovary of a plant, including its seeds, covering and any closely connected tissue, without any consideration of whether these are edible (English Dictionary). Fruits are a part of flowering plants (angiosperms) that disseminate their seeds again without the consideration of their edibility. Edible fruits in particular have long propagated using the movements of humans and other animals in a symbiotic relationship that is the means for seed dispersal for the one group and nutrition for the other; humans and many other animals have become dependent on fruits as a source of food [1]. Fruits are developed, matured and ripened ovaries with or without accessory parts (Debre Berhan University Horticulture Department Teaching Material). Besides these definitions there are different opinions to clearly categorize the specific crop as a fruit and vegetables. Vegetables are vegetative part of plant or the whole vegetative plant itself like stem, leaf, root, tuber and others. But if we consider broccoli and cauliflower are inflorescence buds and artichoke is the entire inflorescence and categorized under vegetable than fruit.

Fruits are a great gift to humankind as they are life-enhancing medicines packed with vitamins, minerals, antioxidants, and many phytonutrients (Plant-derived micronutrients). Having such characteristics they are considered as an absolute feast to our sight, not just because of their color and flavor but of their unique nutrient profile that helps the human body be fit, rejuvenate, and free of diseases [2,3]. The present study mainly focused on nutritional facts of fruits and its impact on betterment of health. Fruits are rich in vitamins,

minerals and are rich source of energy. Mango and papaya are rich source of vitamin A, guava and citrus vitamin C, while richest source for vitamin C was Barbados cherry [4].

The anti-oxidant compounds such as poly-phenolic flavonoids, vitamin-C and anthocyanins help human body protected from oxidant stress, diseases, remove free radicals from the body, and thus offer protection against cancers, aging, infections, etc. and develop capacity to fight against these ailments by boosting our immunity level. Fruit nutrition benefits are enormous including protecting minor ailments like wrinkling of skin, hair-fall, and memory loss and major ailments like age-related macular degeneration of the retina in the eyes, Alzheimer’s disease, colon cancers, weak bones [3].

**Major reviews**

The current continuing growth of population presents a major challenge to achieving nutrition security. The concept of nutrition security, which refers in part to the quality component of food production, consumption and physiological need, is a crucial consideration in efforts to reduce malnutrition [5]. According to FAO Nutrition security is situation existed when all people at all times consume food of sufficient quantity and quality in terms of variety, diversity, nutrient content and safety to meet their dietary needs and food preferences for an active and healthy life, coupled with a sanitary environment, adequate health, education and care [6].

The development of the fruit and vegetable sector in developing countries has a positive impact on the Food and Nutrition Security of the people engaged in the sector and for urban and rural consumers [7]. From the introduction part it is clear that fruits are important sources of vitamins, minerals, antioxidants, and many micronutrients [2,3]. It is obvious that the part of Horticulture used to attain nutrition security is mostly by vegetable crops. In the idea of nutrition security, the main focus is the intake of a wide range of foods which provides the essential needed nutrients for normal functioning of human daily. From this we can conclude that fruits by containing this important ingredient are used to attain nutrition security. This issue is explained briefly as follows.

**Nutrition facts of fruits**

From the above discussion it is clear that fruits are important sources of vitamins, minerals, antioxidants, and many micronutrients [2,3]. The nutritional facts of fruits are presented in table 1 below.

Nutrient	Composition	Nutrient	Composition
Water	80 - 85g	Potassium	110 - 450 mg
Protein	0.5 - 1.5g	Beta-carotene	0.2 mg
Carbohydrate	1.5 - 16g	Vitamin C	10 - 90 mg
Dietary fiber	0.2 - 6.4g	Vitamin B <sub>6</sub>	0.03 - 0.035 mg
Calcium	6 - 50 mg	Energy	6 - 66 Kcal
Iron	0.3 - 1 mg		

**Table 1:** Mean chemical composition of fresh fruit (content per 100g).

Source: Lintas [8].

From the table above Lintas C [8] it clearly signifies that fruits contain many nutrient compositions like water, protein, carbohydrate... and these different compositions are very important to attain nutrition security. Moreover, these fruits are characterized by high fiber, low in fats and oils and this is an indicator of healthy foods. The exception is that high amount of fats and oils found in Avocado and olive

fruits is monounsaturated (high density lipid HDL) is considered as healthy food component for humans. Standing from this different composition of nutrient in fruits it is possible to conclude that fruits are very important to like that of vegetables to bring nutrition security to the society in this changing world.

For more elastration let us consider the nutrition fact of banana fruit from the brief work of Rajani and Shourabh [9] the fruit banana contains important minerals, energy, vitamins, protein, fat and carbohydrates. From this it is possible to generalize even a single fruit can contain different food components those are important to satisfy the nutrition requirement of human being.

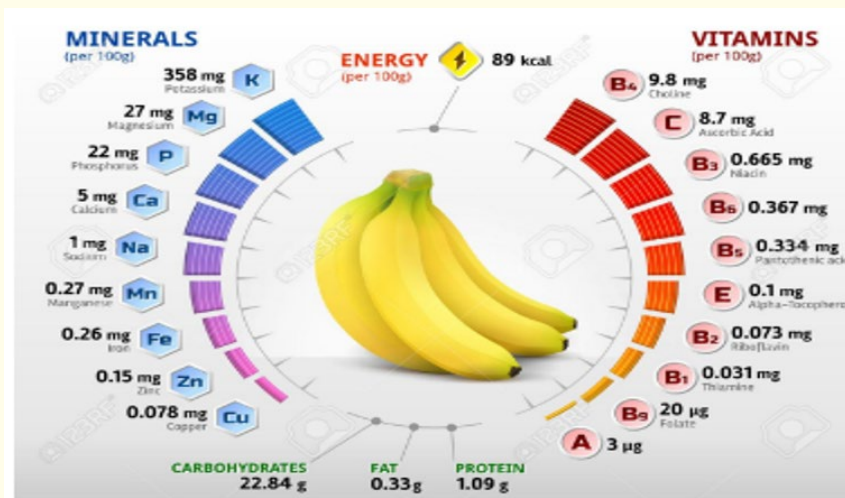


Figure: Source: Rajani and Shourabh [9].

### Systems approach to address nutrition security

The main problem of malnutrition and the nutrition insecurity in developing countries continues to be worrying. Increasing the population’s nutritional security with well-designed food and nutrition strategies and programs will contribute to the enhancement of human capital and subsequent health. Enhancing the human capital is fundamental for increasing the productivity of society, which brings economic growth [10]. From this source it is clear that increasing the production of nutrient rich fruit crops is the ultimate issue to bring nutrition security in populated world. This fact is due to that nutrition security determines the nutrient composition of (different nutrients like mineral, carbohydrate, vitamin, micro-nutrients and...) to make the society healthy and fully functional throughout the day.

There is different system of approaches to address nutrition security for the society of the world. Among those approaches the production of fruits, green leafy vegetables, for diet diversification in combination with animal products is the main and vital approach [9]. From this vital and main approach, the presence of fruits shows that fruits are critical to address nutrition security of the society. The link of these production systems with local processing of improved complementary foods for infants and young children, including lipid-based supplements and the development of a processing industry with woman’s groups to increase year-round availability of diversified foods is another approach for the attainment of nutrition security [9].

### Summary/Conclusion

It is obvious that the problem of malnutrition and nutrition insecurity exists throughout the developing world. The problem of nutrition security brings a lot of problems on health of the living society. This nutrition insecurity can be proven by increasing the production of

nutrient dense fruits in urban and rural areas. To solve this problem, increasing the production of nutrient dense fruits not only solution but managing the whole post-harvest chain of the production and increasing processing to preserve them for offseason also other practices to do so.

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