



## THE COMPATIBILITY FEATURES OF FRUITS AND VEGETABLES ARE THE CRITERION FOR HIGH-QUALITY HARVEST STORAGE

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### Abstract

This article will focus on the compatibility features of fruits and vegetables when storing fruits and vegetables in a mixed way. Groups of fruits and vegetables were analyzed and evaluated for their compatibility. Also, based on specific examples, the degrees of compatibility of fruits and vegetables were determined and a conclusion was made about the topic.

### Keywords

Fruits and vegetables, fats, compatibility levels, storage, refrigerator, ethylene gas, sensitivity levels.

### Introduction

The supply of agricultural products to the consumer without dying is one of the pressing issues. This includes processes such as picking, sorting, packing, and conveying the grown product to market or supermarket stalls on time and at the finish. To date, many experiments have been collected to bring the product to the consumer without loss of quality and without harm to human health. But unfortunately, most sources have noted that the loss of the crop grown in the amount of 25% to 40% is precisely due to the fact that the process after picking was not formed correctly[1, 5-6].

In order to maintain optimal storage conditions, most fruits and vegetables must be stored separately, but this is usually not economically beneficial. Therefore, many products can be stored mixed. But the fact that fruits and vegetables have different properties causes a number of problems when placing them in a mixture in a storage warehouse[2, 36-41].

### RESEARCH METHOD AND METHODOLOGY

When picking fruits and vegetables, their properties, the compatibility of the period of storage of various products, the correct Organization of the initial cooling and storage processes are important factors in the positive solution of this problem.

To sell a product at a profit, it is advisable to keep it in its original and high-grade state. There are several factors that indicate the quality of the product, which include: product color, smoothness, availability of items, size, succulence content and many other characteristics.

It is necessary to take into account the consistency of the products if one cold store is intended to store a variety of products. Compatibility is determined by 4 indicators: temperature, humidity level, ethylene separation and sensitivity to it, odor separation and sensitivity to it[3, 15-19].

If there is no consistency of products when storing fruits and vegetables, they can degrade each other's quality by releasing odors and substances and absorbing them into themselves. Fruits and vegetables

continue to mature and develop after being cut, releasing ethylene and odor from themselves. This feature requires studying the levels of compatibility of fruits and vegetables.

Fruit and vegetable compatibility levels are separated into the following groups [1, 54-55]:

Group 1. Fruits and vegetables stored at a temperature of 0-20C, 90-95% relative humidity. Most products in this group secrete the substance ethylene. They include figs, pomegranates, oranges, strawberries, coconuts, beets, pears, apples, cherries, cherries, plums, lowernak, berries, grapes, dates, peaches, turnips, mushrooms, apricots.

Group 2. Fruits and vegetables stored at a temperature of 0-20C, 90-100% relative humidity. Most products in this group are impressive for ethylene. They include pomegranate, broccoli, brussels sprouts, shrimps, Kiwi, beets, cherry, Cherries, parsley, blue onions, rediska, berries, asparagus, carrots, lettuce lettuce, celery, grapes, turnips, mushrooms.

Group 3. Fruits and vegetables stored at a temperature of 0-20C, 65-75% relative humidity. Products in this group are damaged by moisture. They include garlic onions, dry onions.

Group 4. Fruits and vegetables stored at a temperature of 4.50 c, 90-95% relative humidity. Most products in this group are impressive for ethylene. They include oranges, cantaloupe melon, Cranberries, lemons, tangerines.

Group 5. Fruits and vegetables stored at a temperature of 100C, relative humidity of 85-90%. Many products in this group are susceptible to ethylene and freezing. They include cucumbers, eggplants, olives, potatoes, zucchini, peppers.

Group 6. Fruits and vegetables stored at a temperature of 13-150C, relative humidity of 85-90%. Most products in this group produce ethylene substance and are impressive for freezing. They include pineapple, banana, grapefruit, ginger root, lemon, lime, tomato, pumpkin, melon, mango.

Group 7. Fruits and vegetables stored at a temperature of 18-210c, relative humidity of 85-90%. They include sweet potatoes, pears, watermelons, green tomatoes. Pears and green tomatoes in this group require special storage, as they are susceptible to ethylene.

### THE RESULT OF THE STUDY

As a result of the studies, it became known that different products secrete ethylene gas and are characterized by the degree of their effectiveness in relation to it. For example, it is not recommended to keep apples together with dates or watermelons with tomatoes, because, due to the fact that apples and tomatoes secrete high levels of ethylene gas from themselves, hurmo and watermelon are negatively affected[2, 32-44].

The table below lists the ethylene excretion of the products and its degree of efficacy relative to ethylene[5, 12-14]:

**Ethylene and odor release and ethylene and odor sensitivity levels of certain fruits**

No	Product type	Ethylene release rate	Ethylene effectiveness	Odor release rate	Odor sensitivity
1	cherry	Low	Low	Low	High
2	apricot	High	High	Low	Low
3	Peach	High	High	Low	Low
4	Apple	High	High	High	High
5	Persimmon	Low	High	Low	Low
6	Grapes	Low	Low	High	High

### Conclusion

Some immature fruits and vegetables continue to ripen when exposed to ethylene gas released from them after they are cut off. When the ethylene content in the storage room is high, the development of the product is accelerated. If a single ripeness is placed between immature fruits, then ripening is accelerated because the mature fruit secretes more ethylene gas than it does when immature. For this reason, in addition to slowing down their breathing when the products are put into storage as much as possible, it is necessary to choose fruits and vegetables that are compatible with each other according to other ethylene separators and

their degree of sensitivity[6, 17-18].

If an increase in the amount of ethylene is felt in the storage room, measures to expel it should be considered first, in such cases it is advisable to install a chimney. For example, if the smell of ethylene is not expelled from the cold storage of apples, it can not only reduce the shelf life, but also yellow the walls of the cold storage and the smell will settle.

#### **References:**

1. Isamiddinov M. Mahsulotlarni sovuqxonada saqlash. Toshkent: Baqtriya press, 2013 y., 69-b. <https://www.undp.org/uz/uzbekistan/publications/mahsulotlarni-sovuqxonada-saqlash-boyicha-qollanma>.
2. Nemenushaya L.A. i dr. Sovremenniyе texnologii xraneniya i pererabotki plodoovoshnoy produktsii: nauch. analit. obzor. – M.: FGNU «Rosinformagrotex», 2009. – 172 s.
3. Sharipov S.Ya. Meva-sabzavotlarni saqlashning usullari. T.: Tasvir, 2021.-84 b. <https://agrobank.uz/uz/agrobooks>.
4. <http://asprus.ru/blog/xolodilnoe-oborudovanie-i-sortirovka>.
5. Food Price Monitoring and Analysis (FPMA) Bulletin, Rome, Italy #4, 10 May 2023, 22 p. <https://www.fao.org/documents/card/en?details=cc5981en>
6. Karimov R.R., Axmatov B.R., Mashrabov A.A. Karimov Sh.R.Somon yig‘uvchi barmoqli xalqasimon xaskashning xalqasimon xaskashning prinsipial sxemasini asoslash va ish rejmini aniqlash. –“ToshDTU xabarlari” jurnali. T., 2016 [https://scholar.google.com/scholar?hl=ru&as\\_sdt=0,5&cluster=10319163579933948818](https://scholar.google.com/scholar?hl=ru&as_sdt=0,5&cluster=10319163579933948818)