

### GROWING TOMATOES HYDROPONICALLY IN GREENHOUSES

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<https://doi.org/10.5281/zenodo.6611428>

**Abstract.** *In the article, it was stated that the cultivation of plants by hydroponic methods is much more economical than traditional horticultural and horticultural methods in comparison with droughts and water objects. We consider water to be one of our most valuable sources, Barry de, usa using the gidroponics method, we can save 70-90 percent water compared to audio gardening.*

**Keywords:** *kidroponic method, Organization of greenhouses by the method of kidroponics, special film*

### ВЫРАЩИВАНИЕ ПОМИДОРОВ НА ГИДРОПОНИКЕ В ТЕПЛИЦАХ

**Аннотация** *В статье указано, что выращивание растений гидропонными методами намного экономичнее традиционных садоводческих и садоводческих методов по сравнению с засухами и водными объектами. Мы считаем воду одним из наших самых ценных источников, Барри де, США. Используя метод гидропоники, мы можем сэкономить 70-90 процентов воды по сравнению с садоводством.*

**Ключевые слова:** *метод кидропоники, организация теплиц методом кидропоники, специальная пленка.*

### INTRODUCTION

By the 21st century, the increase in the world population is increasing year by year, the provision of sufficient demand of people for food products in such conditions is connected with the development of Science and the creation of new innovative technologies and their introduction into production. At present, in many countries, natural resources, including land and water resources, are sharply reduced, the search for ways to use them effectively remains an urgent issue.

Agriculture has developed in the countries of the Netherlands, Israel, South Korea, Japan, the United States, Germany since the end of the last century, the cultivation of vegetable products by the method of kidroponics has been established in special greenhouses.

### MATERIALS AND METHODS

Hydroponics- (gidroponics is the Greek word “gidro”-water, “ronos”-worker, has the content of “aqueous working solution”) is the cultivation of agricultural crops with the help of water-soluble nutrients in special gelled conditions without soil.

In the case of hydroponics, all the moderate factors necessary for plants, including air temperature, humidity, heat, light, carbon dioxide gas, water, macro and micro nutrients, are provided and artificially brought into the body.

### RESULTS

Hydroponics is a method of cultivation of plants in an artificial environment without soil. the plant receives an aqueous solution that envelops the roots of the nitrogen. In order to further increase the agricultural potential of our country, greenhouses are being established in all regions by the method of hydroponics. Such compactly and efficiently greenhouses allow to create

thousands of jobs, growing high-quality melons products. Another advantage of a greenhouse of the type of hydroponics is that there is no need for special fertile land. It is controlled by a fully automated control system. There is an opportunity to use the place to the maximum. The energy resources spent on the cultivation of the product are much cheaper. The saving method has a system of irrigation and feeding. For lighting and irrigation, special solar panels can also be used. In terms of growing vegetables by the method of hydroponics is considered one of the methods that has gained success all over the world. The plants grown in such modern and rare greenhouses are characterized by high yield and high resistance to various diseases. Compared to ordinary greenhouses, 2-2, 5 times more productivity is observed. The lack of use of soil and manure has advantages with a high efficiency of mineral fertilizers. For example, under normal greenhouse conditions, if one Bush of tomato seedlings weighs an average of 3 kilograms, then in hydroponics it reaches up to 12 kilograms. In other words, both the roots of the seedlings and the leaves of the tanasiyu will have a long life of seedlings, which are firmly protected from various pests and diseases. This can be explained by the fact that the seedlings planted in November Live about a year. Consequently, if the first 3-4 months is the period of introduction of seedlings into the harvest, then it is possible to cut off the yellow tomatoes from it for 6-7 months. And in order for the height not to reach the ceiling, the lower part of the stem, freed from the fruit, is lowered to the Earth. Thus, through hydroponics, records appear in the ledger of the peasant on the receipt of 120-140 tons of tomatoes from one hectare, 80 -100 tons of cucumbers. In turn, since the harvest period is short, there is also an opportunity to plant the basement three times a year. It is worth to say that even if it is repeated again, on account of the unsuitable fields for discard and crop cultivation.

### DISCUSSION

In greenhouses, the use of South Korean technology of hydroponics is distinguished by its comprehensive compatibility with our climate. This technology has the properties of heat capture and spontaneous heat generation. This, of course, is important in order for the cost of the product to be acceptable. Suppose, on sunny days in the winter months, it is possible to create a set temperature, even if the Heat Supply is disconnected. Because its film coating is able to absorb heat and deliver sunlight and useful elements to the crop up to 93 percent at the time of transfer to the inside. In addition, the process of irrigation, feeding is carried out precisely and qualitatively. These two tasks are performed through a computerized system. If the automatic "Messenger" does not go to any seedlings with water, it will give information to the agronomists until the point of its location. Another aspect is how much water each of the thousands and thousands of seedlings should be drunk, so much water is given to their roots. This guarantees the same development of the crop in all areas. Most importantly, the quality of the harvest is also the same. Seedlings packed in the soil are three to many diseases. The reason is that under such conditions create a favorable environment for the appearance and reproduction of various pests. And in hydroponics, any centimeter, which is their original Nest, is not left open land. The entire area is covered with a special film. If an insect appears, then its destruction after chemical treatment is visible on the surface of the moth.

Cultivation of plants by hydroponic methods is much more economical than traditional methods of gardening and horticulture with respect to droughts and water objects. We believe

that water is one of our most valuable resources, and with the help of the hydroponics method, we can save about 70-90 percent of water compared to ordinary gardening.

### CONCLUSIONS

It is necessary to expand such greenhouses, expand the areas of greenhouse farms, as well as to increase the range of fruit products, taking into account the analysis of the market conjuncture. It is necessary to prepare specialists for the development of this direction. Cooperation with foreign organizations and manufacturers specializing in the training of specialists in the field of greenhouse farms, their professional development, development and introduction of Innovations has become a topical issue today.

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