

**FOOD AND MEDICINAL SIGNIFICANCE, PLANTING PERIOD AND  
PLANT PLACEMENT SCHEMES OF CHINESE CABBAGE  
(BRASSICA RARA SUBSP. PEKINENSIS LIZG)**

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**ABSTRACT**

*Chinese cabbage is cold-resistant, the best temperature for the formation of the plant is 15-18°C. Such an average temperature is observed in the second half of September - the first half of October. Taking into account that Chinese cabbage harvest begins to ripen 70-80 days after planting and takes 15-20 days, it is advisable to plant seedlings in the first ten days of August.*

**Keywords:** *Chinese cabbage, temperature, seedling, soil, vitamins, nutrition, medicine, period, scheme.*

**АННОТАЦИЯ**

*Пекинская капуста холодостойка, оптимальная температура для формирования растения 15-18°C. Такая средняя температура наблюдается во второй половине сентября - первой половине октября. Учитывая, что урожай пекинской капусты начинает созревать через 70-80 дней после посадки и занимает 15-20 дней, высадку на рассаду целесообразно проводить в первой декаде августа.*

**Ключевые слова:** *пекинская капуста, температура, рассада, почва, витамины, питание, лекарство, период, схема.*

**INTRODUCTION**

Chinese cabbage is the most widely cultivated vegetable in China, it is among the most valuable vegetables in terms of its nutritional value, and its use in food has made it a source of vitamins important for human health.

Chinese cabbage is a vegetable crop that is little studied in the countries of Central Asia, including the Republic of Karakalpakstan. That is why most of the information given on its botanical description, biological properties, reaction to light, temperature, soil moisture, corresponds to the literature of the Commonwealth of Independent States and foreign countries.

In the 60s of the last century, a large group of Asian cabbages was named "Chinese cabbages" and was included in the Brassicaceae family and Brassicaceae type. Scientists of the All-Russian Scientific Research Institute of Plant Science studied Chinese cabbages and identified two independent species: *Brassica rara* subsp. *pekinensis* Lizg and *Brassica rara* subsp. *chinensis* Lizg.

## **DISCUSSION AND RESULTS**

Chinese cabbage is one of the oldest crops in China. It is a one- and two-year plant. The lower leaves of the plant are whole, sessile, and they are attached to a bush with a diameter of 30-50 cm. The leaves can be wide, long, inverted ovate, oval, 30-60 cm long. Leaves are light and dark green in color, sparsely covered with wax dust.

The main vein of the leaf is wide, large, white in color, very tender and juicy.

The upper leaves of the plant are dark green, and the inner leaves are light in color. Depending on the age, they become rough. After steaming these leaves, they are used in the preparation of various dishes. Its productive member is cylindrical cabbage, from which fried and boiled dishes are prepared: soup, various salads, pickles, marinades and preserves. It is also possible to freeze its product.

In foreign scientific literature, there is a lot of information on the consumption standards of Chinese cabbage, the amount of useful biologically active substances in their composition, as well as nutritional and medicinal properties.

There is information about the use of Chinese cabbage in food in various ways, and it is reported that Chinese cabbage is very tasty when used as a garnish on meat and fish products. The author of the Missus site, which describes the nutritional properties of Chinese cabbage, admits that although it looks like a white cabbage, it is tender and tasty. Chinese cabbage is close to white cabbage in terms of its nutritional properties and nutritional value, but it is higher than it in terms of keeping a lot of vitamins. Chinese cabbage is one of the most nutritious vegetables and is a source of vitamins and necessary antioxidants: C, V, V1, RR, V-carotene, selenium, fats, unique amino acids, potassium, calcium, phosphorus, iron salts, pectin substances and many trace elements.

In addition to the high nutritional value of vegetable crops, they also have many medicinal properties.

D. Chernyaeva (2012) notes that Chinese cabbage is an important food product, especially because it contains lysine, which dissolves foreign proteins in the blood and increases the body's resistance to various diseases.

The author of the Ogorod site described the beneficial and harmful properties of Chinese cabbage and emphasized that this crop is an important medicinal tool in the treatment of stomach and duodenal ulcers, diabetes and radiation sickness.

In recent years, South Korean scientists have discovered that Chinese cabbage contains the substance "glucosinolatam" (1 g product - 2 ml), which is an effective tool against malignant tumor diseases. Beijing cabbage is one of the most valuable types of cabbage with medicinal properties. It serves as an important medicinal tool in the treatment and prevention of headaches, nervous disorders, depression, cardiovascular diseases, especially hypertension, dementia, and anemia.

Another practical importance of growing Chinese cabbage is the high level of minerals and vitamins in its content. Compared with more than 30 types of vegetable crops (carrots, artichokes, spinach, sweet corn and hakoza), Chinese cabbage showed the highest level of vitamin C. In addition, it has been found that it is equal to soy, spinach and asparagus in terms of vitamin E. Vitamin B6 is higher than garlic, pepper and spinach. It ranks ahead of carrots in terms of A and B carotenoids. The beneficial properties of this crop are an important sign of prevention of a number of diseases, including high blood pressure, heart disease, and osteochondrosis.

Chinese cabbage, which contains a sufficient amount of fiber, will help people who want to lose weight.

It is also an effective tool against the removal of cholesterol accumulated in the human body, damage to liver function due to fat accumulation, and the appearance of harmful tumors.

The above information on the distribution, nutritional and medicinal properties of Chinese cabbage indicates that this is a valuable vegetable crop.

**Planting period and plant placement schemes.** Chinese cabbage is cold-resistant, the best temperature for the formation of the plant is 15-18°C. Such an average temperature is observed in the second half of September - the first half of October. It is advisable to plant seedlings in the first ten days of August, taking into account the fact that ripening begins 70-80 days after planting and takes 15-20 days.

In the conditions of crop rotation, it is recommended to place Chinese cabbage seedlings in a scheme of 70x40 cm, in which the thickness of 35.7 thousand plants per hectare is achieved. Information was obtained based on the experience conducted in the Nukus District of the Karakalpakstan Institute of Agriculture and Agrotechnologies.

Planting schemes	Leaves in one plant, number	Days from planting till the first yield	The weight of one cabbage, kg	Qualitative productivity of Chinese cabbage, ha	
				т/га	%
70×20	23,7	97	0,62	30,2	104,1
70×25	24,1	94	0,74	29,3	101,0
70×30 (control)	24,8	91	0,84	29,0	100
70×35	25,7	88	0,97	28,8	99,3
70×40	26,8	87	1,09	29,2	100,7
70×45	27,9	85	1,15	28,4	97,9
70×50	28,2	83	1,24	27,4	94,5

## CONCLUSION

Abundant irrigation was carried out one day before taking the seedlings to the field. In crop rotation, Chinese cabbage seedlings are planted together with pre-sowing irrigation during the cool part of the day (after 4 in the afternoon). Seedlings are planted in pre-prepared nests 15-20 cm deep, and after transplanting, they are watered for good retention.

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