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THE IMPORTANCE OF BRUSSELS CABBAGE AND THE TECHNOLOGY OF CULTIVATION IN VARIOUS NUTRITIONAL AREAS

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Annotation. There are not enough scientifically- based recommendations on feeding area and by placement methods for Brussels sprouts in the republic, and many scientists and practitioners are experimenting with the most suitable planting schemes to grow Brussels in order to achieve high productivity.

In our investigations we used a 70x30 sm planting scheme as a comparative option. The article summarizes the results of the experiments on identifying the optimal feeding area for the Brussels sprouts.

Key words: brussels sprout, seeds, seedlings, planting scheme, pillars, fertilization, temperature, growth period.

Vegetables contain more than a dozen vitamins, mineral salts, enzymes, phytoncides and other biologically active substances which have a special role in improving ability to work in the lives of people.

Brussels cabbage contains substances useful for the human body. Small cabbage contains 15,5 – 17,5% dry matter, contains sugar 4,6 – 5,4%, starch 0,5%, kletchatka 1,2–1,7%, protein 3,5-5,5%. A special feature of cabbage is its richness in many different vitamins. 100 gr of cabbage has been found to contain vitamin C 104,4 – 207,7 mg %, carotene 0,1 – 0,5 mg %, B_1 0,13 mg%, B_2 – 0,15 mg %, B_6 – 0,28 mg %, B_9 - 31 mg%, PP – 0,70 mg%. Brussels cabbage is rich in mineral salts, namely Sodium (7 mg %), potassium (500 mg %), calcium (40 mg%), magnesium (40 mg%), phosphorus (110 mg%), iron (1,3 mg%) and iodine, as well as free amino acids and enzymes. Carom is rich in essential foods and valuable medicines for its complex biochemical composition [1, 2, 3, 4, 5, 6.].

The optimal feeding area is not the ability of the plant to produce the highest and qualitative harvest but to obtain the highest and biggest yield with the least expense per hectare.

Accordingly, this issue has always been in the view of plant scientists and dealing with it constantly [1, 2, 3, 4, 5, 6.].

The feeding area is the area where the plant occupies the field, and the thickness or sparse vegetation is the number of plants per hectare.

The optimal feeding area depends on the planting and its types as well as the environmental factors and the technology that has been used.

As above mentioned, many scientists and practitioners have been interested in area of plant nutrition for a long time in plant science.

In the middle of the 19th century the actions which connected with this issue had been begun deeper. [7, 8, 9, 10, 11, 12.].

Brussels sprouts belong to a group of vegetable crops, with another words butt(Crucuferrae), firstly head of cabbage, and in the second year they produce flowers and seeds.

Brussels home is the coast of Mediterranean and Russia.

Brussels is a very old type of cabbage that is grown in all European countries as well as North America.

It gained great popularity in Belgium and later moved to Holland, then to France and Germany.

It was imported to Russia in the middle of the 19th century but it was not widely distributed because of the cold weather.

Brussels sprouts are now the most popular vegetable in the world and are grown all over the Europe, as well as in North America.

Brussels sprouts are highly productive in Canada, France, Germany, Great Britain and Belgium. [13-18.].

Brussels sprouts are not found wild in nature.

There is some information that Brussels cabbage is derived from wild cabbage growing in areas around the Mediterranean.

Brussels sprouts are frost-resistant, but their best growth and development is observed at 18-22 ^{0}C. [5, 7, 9.].

Brussels sprouts are required very wet, and the root system can easily survive the lack of moisture in comparison with other varieties of cabbage because of its vigorous development.

Cabbage requires light and grows well in the long day, during the growing season it should be free of shade and the seedlings should not be thick.

It should be cultivated in open areas.

In the areas where there are more sunny days the cabbage has high yield and quality. It is a crop that requires fertile soil. During the planting phase and leaf formation the seedling require for nitrogen fertilizers much.

However, its high content leads to the accumulation of excess nitrate.

During the formation and growth of cabbage head it needs phosphorus-potassium fertilizers.

The average growth period is 110-120 days.

Experiment methods.

There are not sufficient scientifically-based recommendations on Brussels sprouts, feeding areas and methods of placement, so we have taken a 70x 30 sm planting scheme as a comparative option and used the hybrid Franklin F_1

Our research was carried out at “Vegetable, melon and potato growing” Department of Tashkent state Agrarian University.

Field experiments were conducted in the experiment field of Tashkent state agrarian university during the 2020-2023 s, observations, measurements and computational experiments in four repetitions, consisting of a field of 10m, i,e

$7m^2$, 70 sm long. [5, 6].

Study results.

Experiments have been shown that over-planting of plants results in weaker foliage accumulation and formation of cabbage heads, and would be their small heads, in turn, results in a reduction in the quality of the products.

Experimental phenological observations have shown that an increase in feeding area from 0.210 m^2 to 0.350 m^2 or a decrease in seedling thickness from 47.6 thousand to 28.6 thousand will accelerate plant development.

Phonological observations in the experiments showed that the area of feeding increased from 0.210m^2 to 0.350 m^2 or the reduction of planting thickness from 47,600 to 28,6 thousand pieces accelerated the development of plants. (table 1).

Table 1

Influence of seedling thickness on the duration of vegetation growth cycle (2020-2023 s).

Sowing scheme, sm	Feeding area of a per plant,m^2	Thickness of seedling, thousand piece\ha	After planting, day		Brussels sprouts formation time, day	Growth period, day	Germination time	
			The time when the Brussels sprouts have begun to form	Time until first harvest, day			First harvest, date	Last harvest, date
70×30 sm control	0,210	47,6	62	95	33	110	5/XI	11/XI

70×35 sm	0,245	40,8	60	92	32	107	30/X	10/XI
70×40 sm	0,280	35,7	58	88	30	103	25/X	9/XI
70×45 sm	0,315	31,7	57	85	28	100	20/X	6/XI
70×50 sm	0,350	28,6	56	84	28	99	15/X	1/XI

In the densely populated areas(47,600 pieces), it took 62 before planting to form the Brussels sprouts, which happened later than the last 5-6 days (70x45 sm and 70x50 sm). The formation period of cabbage heads show lasts from 28 to 33 days, depending on the intervals.

Among the seedling intervals, the first harvest was conducted on areas with seedling thickness of 28.6-31, 700 pieces, which occurred 15-20 days before the control variant.

Increasing spacing between 30cm and 35 sm accelerated the formation of cabbage heads by 1-2 days, 40 sm growth by 4 days, and an increase of 45 sm to 50 sm accelerated by 5-6 days.

Light and nutritional regime in plants with different feeding areas 0.210-0.245 m^2 and plant thickness of 40.8-47,6 thousand pieces are not provided the same.

This had a significant impact on plant growth and on the formation of the assimilatory surface.

Conclusion

1. Increasing in plant feeding area has reduced the period of heading and thier formation.

When planting between 30 sm and 35 sm, the first harvest accelerated to 1-2 days, and 4 days at 40 sm, and 6 days when the planting intervals were 50 sm.

2. Based on the results of our experience, we can say that sowing Brussels cabbage in a 70x50 scheme can achieve high biological yield and allows to produce higher yields.

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О ЗНАЧЕНИИ БРЮССЕЛЬСКОЙ КАПУСТЫ И ТЕХНОЛОГИИ ЕЕ ВЫРАЩИВАНИЯ В РАЗЛИЧНЫХ ОБЛАСТЯХ ПИТАНИЯ

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Аннотация. В республике недостаточно научно обоснованных рекомендаций по площади подкормки и способам размещения брюссельской капусты, и многие ученые и практики экспериментируют с наиболее подходящими схемами посадки для выращивания брюссельской капусты с целью достижения высокой урожайности.

В наших исследованиях мы использовали схему посадки размером 70х30 см в качестве сравнительного варианта. В статье обобщены результаты экспериментов по определению оптимальной площади подкормки брюссельской капусты.

Ключевые слова: брюссельская капуста, семена, рассада, схема посадки, столбики, подкормка, температура, период роста.

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