

# Varieties, Sowing Times and Planting the Influence of Schemes on the Productivity of Cabbage

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**Annotation:** In the experiment, in comparison with the planting schemes of the white cabbage variety and hybrid, when seedlings were planted on June 15, the mass of cabbage was 113.7 - 110.8% for the Sharkiya-2 variety and 107.3 - 109.4% for the Geant F1 hybrid. The yield of variety Sharkiya-2 (30/VI) was 64.5 t/ha with a planting pattern of 70x50 cm and 68.7 t/ha with a planting pattern of 90x30 cm (July 30) was higher by 13.5 and 10.6% respectively, in the variant planted on a plot of 90x30 cm (July 15), compared with the control. Hybrid Geant F1 (July 30) had the highest yield by 7.4 and 9.0% in the sowing schemes when seedlings were planted on June 15.

The cost per tonne of the product was 18.0% and 13.2% lower in the high-margin options. Profitability of variety Sharkiya-2 51.8–41.3% by variants; The Geant F1 hybrid ranged from 58.3% to 41.6%..

“Uzbekistan Republic village of the farm development for 2020-2030 intended strategy defined tasks in 2022 population employment provide according to set given priority tasks performance provide, plant husband from the fields efficient use, population food products has been demand guaranteed provision, village economy products of prices stability supply, export size increase also in 2022 from grain and tomorrow from crops loose to the fields repeated crops own in terms of planting, agricultural engineering events transfer, demand to be done material - resources delivery to give and cultivated the harvest own in time collect get, re work, reserve accumulation and for export to be directed organize reach according to separately tasks set given \_

Uzbekistan Republic President of September 15, 2017” In 2018 village economy crops reasonable placing measures \_ \_ and village economy products of cultivation forecast volumes about» gi PQ-3281- numbered decision of March 29, 2018” Uzbekistan in the Republic fruit and vegetable growing fast to develop circle addition measure - measures about» PF - 5388- Decree and Ministers March 29, 2019” 2019 \_ crop for village economy crops reasonable placing and product of cultivation forecast volumes on» No. 259 \_ decision and this to the activity belongs to another regulatory - legal in the documents defined of duties in execution this dissertation research certain level service does \_

Today's in the day the world according to the most popular vegetable from crops has been Cabbage 2.82 million . per hectare more than on the field is being cultivated . Average productivity 29.4 tons per hectare and gross harvest 82.8 mln . tons organize is <sup>2</sup>doing In the world moderate climate to the conditions have , long warm daily South Europe , Central and South Asia, North and South America , Australia in the regions this plant repeated in the crop basically from the seed is cultivated . Aqbosh cabbage has been demand satisfy in order to village economy work manufacturers for this crop repeated plant as Cultivation technology improvement in this the most acceptable planting duration of plants nutrition Fertilize the field and irrigation standards identify as well goods and fruitful variety and hybrids choose regarding studies current is considered

Current in the day repeated in the crop vegetable farming more development , in particular white of cabbage productivity and quality more increase , varieties biological productivity maximum manifestation which variety - sowing term - planting scheme system selection , fertilization and of irrigation the most acceptable standards app reach according to scientific affairs take is going Various in different regions soil climate conditions white cabbage Cultivation technologies improvement issues according to foreign countries N.N. Chernysheva, L.E. Soloveva, R.D. Almasker, A.S. Bolotskih, S.V. Koroleva, S.V. Sitkinov, V.V. Skorina, V.F. Pivovarov, L. K. Gurkina, T.V. Lizgunova, V.A. Denisov, R.D. Almasker, I.D. Rajabli, N.B. Petrov, O.N. Vishnevskaya, A.F. Bukharov, L.I. Uralets, M.N. Shapturenko, V.N. Lukyanets, G.A. Kostenko, A.D. Dzhakhangirov, V.P. Kuzmishchev, G.F. Monakhos; in our republic V.I. Zuev, O. Kadirkhojaev, B.J. Azimov, T.E. Ostonakulov, A.M. Abbasov, M.Kh. Aramov and another many scientists by scientific studies take went and recommendations given.

That's it relationship with of cabbage repeated in the crop Cultivation possible has been acceptable their varieties \_ acceptable planting scheme , duration determination , mineral fertilizers and of irrigation each one variety for the most acceptable standards work exit and to practice app reach current task being remains , him solution reach while republic according to big in scale from grain the occupant in the fields repeated in the crop white from cabbage high and good quality harvest get enable giver row problematic issues to be solved possibility gives \_

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<sup>2</sup><http://statinformation.ru/sel/cabbages.html>

Researches B.J.Azimov, B.B.Azimov's» Methodology of conducting experiments in vegetable growing, rice growing and potato growing" (2002),» Metodika opytnogo dela v ovoshchevodstve i bakchevodstve" (1992),» Metodicheskie ukazaniya po ekologicheskomu ispytaniyu" ovoshchnyx kultur" (1987) was conducted based on the methods presented in the manuals.

The scientific significance of the research results: the growth and yield indicators of white cabbage grown in repeated crops in the conditions of long-irrigated meadow and meadow-gray soils of the Tashkent region were determined depending on the variety used for development, planting scheme, planting period, fertilization and irrigation standards.

We selected promising options from the experiments conducted in 2007-2010 and conducted 3-factor complex experiments in 2011-2013. In this case, the factor A variety; Factor V was the planting period and factor C was the planting scheme.

70×50 cm in 30.VI control in Sharqiya-2 variety. the weight of the leaves on the plant when using the planting scheme is 1.07 kg; 90×30 cm. in the scheme was 0.87 kg. Seedling 70x50 cm on June 15. When planted in the scheme, the weight of leaves (30.VI) is 112.1% higher than the control; 90×30 cm. in the scheme was 115.9%. Geant F<sub>1</sub> 30.VI control version 70x50 cm. When planted in the scheme, the weight of leaves per plant is 1.30 kg and 90×30 cm. in the scheme was 1.23 kg. Seedlings are 70×50 cm when planted 15 days ago on June 15. leaf weight (1.40 kg) by 7.7% in the planting scheme; 90×30 cm. 19.5% heavier in the scheme.

Sharqiya-2 variety (30.VI) control option 70×50 cm. the height of cabbage in the planting scheme is 21.3 cm. and 90×30 cm. 19.0 cm in the scheme, 70×50 cm when the seedling is planted on June 15. the height of cabbage in the scheme is 24.7 cm. or 16.0 % compared to the control; 90×30 cm. in the scheme was 26.3% higher.

Geant F<sub>1</sub> hybrid (30.VI) seedling 70×50 cm in the control option. Cabbage height when planted in the scheme is 16.0 cm.; 90×30 cm. 15.0 cm in the scheme. has been Seedling 70x50 cm on June 15. when planted in the scheme, the height of cabbage compared to the control by 12.5%; 90×30 cm. in the scheme was 13.3% higher.

According to the methodical instructions, white cabbage varieties are divided into early, medium, and late ripening groups. The average weight of cabbage in early varieties is 0.8–2 kg; in medium varieties - 2-4 kg. and the average weight of cabbage in late ripening varieties is 3–8 kg. will be up to

In the description of the Sharqiya-2 variety, it is said that it is a late-ripening variety, the cabbage is tight, the shape is round, and the weight is 1.7 kg. The Geant F<sub>1</sub> hybrid is dense, round in shape, and the average weight of the cabbage is 4-6 kg. In our experiments, the planting period and planting schemes of the tested varieties showed their effect on the weight of cabbage.

Sharqiya-2 variety (30.VI) in the control option 70×50 cm. Cabbage weight 2.26 kg and 90×30 cm in the planting scheme. in the scheme was 1.85 kg. 70×50 cm on June 15. when the plant is placed in the scheme, the cabbage weight is 2.57 kg or 103.7% compared to the control; 90×30 cm. in the scheme was 1.85 kg or 110.8%. The difference between the schemes (30.VI) was 22.1% in the control option and 25.3% in 15.VI.

Geant F<sub>1</sub> hybrid (30.VI) seedling 70×50 cm in the control option. Cabbage weighs 2.62 kg and is 90×30 cm when placed in the scheme. in the scheme was 1.88 kg and the difference between them was 39.4%. Seedling 70x50 cm on June 15. Cabbage weight when planted in the planting scheme is 2.81 kg or 107.3% compared to the control; 90×30 cm. in the scheme was 2.05 kg or 109.0% compared to the control option. In this period, the difference between planting schemes was 137.0%. The effect of planting schemes on cabbage weight was stronger than the planting dates.

#### Effects of cultivars, planting period and scheme on cabbage weight and wet root weight (2011-2013)

Var	Planting term	Planting scheme, cm.	Cabbage weight		Wet root weight	
			kg.	To control relative to	g.	vs. control, %
Sharqiya-2	15/ VI	70×50	2.57	113.7	168	103.7
		90×30	2, 05	110, 8	172	103.6
	30/VI control	70×50	2.26	100.0	162	100.0
		90×30	1, 8 5	100.0	166	100.0
Geant F <sub>1</sub>	15/ VI	70×50	2.81	107.3	146	106.6
		90×30	2.05	109.0	151	108.6
	30/VI control	70×50	2.62	100.0	137	100.0
		90×30	1.88	100.0	139	100.0

When studying the effect of planting time and the number of seedlings per hectare on the yield of varieties and hybrids, factor A (variety); V (planting period) factor and S (planting pattern) factor. The minimum significance difference for factors A and V (EKMT<sub>05</sub>) is 4.4 t at the 5% level; According to S and AS, VS and AVS, EKMT<sub>05</sub> was also 4.4 t. The accuracy of the experiment was S  $\bar{x}$  - 4.0%. They were convincing because the difference between the yield of the control variant and other planting schemes was higher than that of EKMT<sub>05</sub> at both planting dates in the cultivar and hybrid.

**Effect of planting time and planting schemes on the yield of white cabbage varieties (2011-2013)**

Var	Planting term	Planting scheme, cm.	Productivity, t/ha			Average	Relative to control, %
			2011	2012	2013		
Sharqiya-2	15/ VI	70×50	77.5	75.3	66.7	73.2	113.5
		90×30	79.4	77.6	71.0	76.0	110.6
	30/VI control	70×50	68.3	66.4	58.8	64.5	100.0
		90×30	74.6	70.1	61.4	68.7	100.0
Geant G <sub>1</sub>	15/ VI	70×50	84.6	81.2	74.5	80.1	107.4
		90×30	77.8	78.8	71.3	76.0	109.0
	30/VI control	70×50	75.4	77.9	70.6	74.6	100.0
		90×30	71.3	73.4	64.4	69.7	100.0
<i>EKMT</i> <sub>05</sub>	<i>Factors A and V</i>		4.4	3.7	3.0		
<i>EKMT</i> <sub>05</sub>	<i>S and AS, VS and AVS</i>		4.4	3.7	3.0		
<i>Experimental Accuracy S<sub>x</sub> %</i>			4.0	3.4	3.1		

In this experiment, when the number of plants decreased from 37 thousand (90x30 cm.) to 28.5 plants (70x50 cm.) in the Sharqiya-2 variety of white cabbage, the yield decreased proportionally. Compared to the variant with 37 thousand plants (70x50 cm) in Geant F<sub>1</sub> hybrid, the yield per hectare was higher in the variant with 28.5 thousand plants. Despite the fact that A and V factors EKMT<sub>05</sub> and S and VS and AVS indicators were the same 3.7 t, the yield depended more on the planting period and less on the planting scheme. The average yield of the options is reliably higher than EKMT<sub>05</sub>. The accuracy of the experiment S<sub>x</sub> was high (3.4%).

Geant F<sub>1</sub> hybrid (30.VI) in control version 70x50 cm. 70.6 tons per hectare when planted in the scheme, 90x30 cm. 64.4 tons were harvested in the scheme, the difference between them was 9.6%. Seedling 70x50 cm on June 15. when planted in the scheme, the yield was 74.5 t/ha, which was 5.5% more than the control. 90x30 cm. when planted in the scheme, the yield was 71.3 tons, 10.7% higher than the control, and the difference between eKish schemes was 4.5%.

05 3.0 t according to factors A (variety) and V (planting period) ; EKMT<sub>05</sub> was 3.0 t for S (planting scheme) and AS, VS and AVS factors . Accuracy of experiment S<sub>x</sub> made up 3.1%. The relationship of the correlation coefficient between the cabbage weight and the yield of varieties, planting period and planting schemes was strong ( $r=+0.77\pm 0.26$ ) and reliable for the correct correlation.

The three-year average productivity of the Sharqiya-2 variety is 70x50 cm in the June 30 control variant. 64.5 tons per hectare in planting scheme, 90x30 cm. in the scheme was 68.7 tons and the yield difference between them was 6.5%. Seedling 70x50 cm 15 days before control on June 15. when planted in the scheme, the yield is 13.5%, 90x30 cm. in the scheme (76.0 t/ha) was 10.6% higher. The difference in the yield of the schemes planted during this period was 3.8%.

Geant F<sub>1</sub> hybrid was 74.6 t/ha when 28.5 thousand seedlings were planted per hectare in the June 30 control option, and 69.7 t/ha when 37.0 thousand seedlings were planted, and the difference in productivity between them was 7.0%. Seedlings planted on June 15, 70x50 cm. when the scheme is used, the yield is 80.1 t/ha, 90x30 cm. in the planting scheme was 76.0 t/ha and they were 7.4 and 9.0% higher than the control options, respectively.

cost of 1 ton of product is the cheapest: Geant F<sub>1</sub> hybrid was 157.9 - 161.4 thousand soums in the options planted on June 15-30 in the 70x50 cm scheme , and Sharqiya-2 variety was 164.7 thousand soums in the option planted in the 70x50 cm scheme on June 15. The cost of the product decreased by 13.2–18.0% in the variants with high productivity, and the profitability level in the Sharqiya-2 variety is in the range of 51.8–41.3% according to the variants; The Geant F<sub>1</sub> hybrid ranged from 58.3% to 41.6%.

### Conclusion

1. In the experiment, compared to the planting schemes of the white cabbage variety and the hybrid , when seedlings were planted on June 15, the cabbage weight was 113.7 - 110.8% in the Sharqiya-2 variety and 107.3 - 109.4% in the Geant F<sub>1</sub> hybrid . Productivity in the Sharqiya-2 variety (30/VI) in the control variant is 70x50 cm. three-year average yield in the planting scheme is 64.5 t/ha and 90x30 cm. in the scheme was 68.7 t/ha. ( 30.VI) compared to the control, when the seedling is planted on June 15, the yield is 90x30 cm. scheme was 13.5 and 10.6% higher, respectively. In the Geant F<sub>1</sub> hybrid ( 30.VI) compared to the control, when the seedling was planted on June 15, the yield was 7.4 and 9.0% higher according to the planting schemes.

The cost per ton of product was 18.0 and 13.2% lower in the high yield options. The rate of profitability in the Sharqiya-2 variety is 51.8–41.3% according to options; Geant F<sub>1</sub> hybrid ranged from 58.3%–41.6%.

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