

THE INFLUENCE OF THE TIME OF PLANTING OF ROYAL BULBS ON THE SEED YIELD AND ITS QUALITY OF WHIPE ONION IN THE CONDITIONS OF THE SOUTH OF UZBEKISTAN

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ABSTRACT:

The article presents the results of research on identification of the optimal time for planting uterine bulbs for the seed yield and its quality of onions in the conditions of the south of Uzbekistan. The optimal timing of planting the uterine onion bulbs is recommended.

Keywords: mother plant, planting dates, seeds, mass flowering, number of arrows, number and height of leaves, seed yield.

INTRODUCTION:

The study of different dates for planting onion mother plants in Uzbekistan was carried out by F. Sh. Radjabov (1970), N.S. Bakuras (1973), M. M. Rakhmanov (1979).

We present the results of research on identifying the optimal time for planting uterine bulbs. When planting uterine bulbs at different times the plants are exposed the influence of various external factors (length of the day, security moisture, air and soil temperature), which naturally have a noticeable effect on the growth and development of seed plants (Table 1).

So when planting uterine bulbs in the first half of September the duration of the

"planting - beginning of regrowth" period was 10-14 days, versus 7-8 days for planting in the second half of October. Reduction of this period in plants of later dates planting should be explained by the fact that on October 15-30 most of the bulbs begin to grow back before they are planted. Therefore, despite decrease in soil and air temperature when planting on October 15-30 the plants grow back faster than when planted on September 1-15. The longest period was the "beginning of mass shooting" in plants of the early autumn (September 1-15) planting period and amounted to 193-201 days, versus 133-162 days, when the mother plants were planted on October 15-30.

By the duration of the periods of "the beginning of shooting, mass flowering "and" beginning of flowering - massive seed ripening "between variants, no significant differences were noted. Although noted tendency of shortening of the duration of the "onset" period shooting - mass flowering "from early autumn (1-15.09) terms planting by later dates (15-30.10) planting.

The longest was the "planting-cleaning" period for onion plants when planted on September 1-15 and amounted to 274-288

days. The timing of planting uterine bulbs has a significant impact on the manifestation of morphological and economically valuable traits. The greatest value of signs was noted in the early autumn period. (01-15.09) planting. At this time of planting onion plants formed 39.8-39.9 pieces of leaves, which is 6.7-10.0 pieces more than with late autumn (15-30.09) planting dates.

Table 1. The duration of the phenological phases of onion plants at different planting dates

Planting time	Start planting regrowth, days	Beginnings regrowth massive Strelkovo, days	Beginnings shooting massive flowering, days	Beginnings bloom massive ripen seeds, days	Plantings cleaning, days
01.09.	14	201	46	40	288
15.09. контр	10	193	42	39	274
30.09.	И	173	45	43	260
15.10.	8	162	41	38	244
30.10.	7	133	42	40	229

Planting timing has a great influence on the branching of seed onion plants. With early-sown (1-15.09) planting dates the degree of branching and arrowing of the testes is higher, which increases harvest both from one plant and from a unit of area. So with planting uterine bulbs on September 1-15, number of branches per plant was 3.6 versus 3.0 when planting on October 15-30. It is known that not all branches give arrows. Of the total of branches 85-95% form flower arrows, and the rest remain vegetative shoots. According to N.P. Timofeev (1935) these phenomena is explained by the fact that when a large number of branches are formed, they are mutually oppressed, some of them are delayed in development.

Therefore, there is no complete arrowing of the branches. The growth of plants, the formation of new organs - leaves, branches, arrows, inflorescences and etc., is inextricably linked with the growing conditions. More favorable conditions for growth and development in early autumn (1-

15.09) planting dates contribute to the formation of a large number of leaves, branches, arrows and their intensive growth. Number of arrows at early autumn planting was 2.0-3.4, which is 0.3 - 0.6 pieces more than when planting mother plants on October 15-30.

Favorable conditions for the early autumn planting of mother plants in the conditions of southern Uzbekistan also affected the height of the flower arrow.

The height of the flower arrow when planting queen cells in early autumn was 114.6-116.4 cm, which is 24.9-28.1 cm more than later planting.

The same phenomenon is noted for the size of the umbrellas. So for more early planting of queen cells, the height of the umbrellas was 7.6-7.7 cm, and diameter 8.6-9.0 cm. The same figures for later planting were 4.8 - 6.6 cm and 5.9 - 7.2 cm, respectively.

Thus, an analysis of the data in Table 3.3.2 shows that a more powerful development of onion testes is noted during early autumn planting, queen cells. This, in turn, indicates that in the first half September in southern Uzbekistan favorable climatic conditions for the growth and development of onion seed plants onion. At later dates of planting (15-30.10), the sizes of all indicators are decreasing.

Better and longer period of growth and development tests when using more favorable external conditions from early autumn planting of mother liquors leads to a significant increasing the yield of seeds. Seed yield depending on the planting dates are shown in Table 2.

The highest seed yield - 9.7 c / ha - was obtained in the variant early autumn planting of mother plants on September 1. He was 25% bigger than in the control variant - September 15. At a later date planting seed yield is sharply reduced. When planting mothers on October 30, seed yield amounted to only 4.6 c / ha or 59.7% of the control.

The yield of onion seeds is increased mainly due to the more powerful plant development during early autumn planting – education large leaves, inflorescences, additional arrows. The more the larger and more powerful the leaves, the more plants have the ability synthesize plastic substances in the process of photosynthesis and accumulate high yield. From the data table. 3. It can be seen that the earlier the disembarkation mother plants, the more seed productivity of onion plants onion.

So, when planting a mother plant on September 1, seed plant productivity was 11.6 g, which is 11.5% more in terms of compared with the planting of mother plants on September 15 and by 141.7% more on compared with the disembarkation of mother plants on October 30. Table 2.

Morphobiological characteristics of onion testes at different planting dates

Dates on cages Quantity, pcs.

Flower arrow height, cm

$x \pm tKs$

X Size of inflorescences, cm

leaves

$x \pm t0 \wedge s$

X branches

$x \pm t05s$

X

shooter

$x \pm t0 \wedge s$

X

height

$x \pm t 05 s$

X

diameter

$x \pm t 05 s$

X

Dates of planting	Quantity, pcs.			Flower arrow height, cm $x \pm tKs$ X	Size of inflorescences, cm	
	leaves $x \pm t0 \wedge s$ X	branches $x \pm t05s$ X	shooter $x \pm t0 \wedge s$ X		height $x \pm t 05 s$ X	diameter $x \pm t 05 s$ X
01.09	39,9±0,7	3,6±0,2	3,4±0,2	116,4±3,1	7,7±0,2	9,0±0,2
15.09contr.	39,8±0,7	3,6±0,2	3,0±0,4	114,6±3,0	7,6±0,2	8,6±0,2
30.09	36,8±0,8	3,2±0,3	3,0±0,4	97,8±2,9	6,8±0,2	7,9±0,2
15.10	33,2±0,8	3,0±0,3	2,8±0,3	91,5±3,0	6,6±0,2	7,4±0,2
30.10	29,9±0,7	3,0±0,3	2,7±0,2	86,4±3,1	4,8±0,2	5,9±0,2

Seed productivity of onion plants is natural decreases from the first to the last date of disembarkation of mother liquors.

Table 3 Seed yield depending on the timing of planting uterine bulbs

Timing planting	Harvest of seeds with VC		In control %	Increase to control ±,
	hectare,	Plants, g		
01.09	9,7	11,6	125,0	+2,0
15.09 контр.	7,7	10,4	100,0	-
30.09	7,5	8,2	97,4	-2,2
15.10	5,2	6,6	67,5	-2,0
30.10	4,6	4,8	59,7	-3,1
P%	2,4			

It should be noted that in experiments with planting dates, plants were also found that did not form seed arrows. From the data in Table 4, it follows that the later the planting of mother plants, the more plants that have not formed seed arrows. When mother plants were planted on September 1, plants of "stubborn" per 1 hectare were 3.0% of the total number of plants; when planting on October 30, the number of such plants increased to 3.8%. The reasons for the appearance of "stubborn" were discussed by us in the previous section.

The sowing and yielding properties of agricultural seeds, including vegetable seeds, are influenced by many factors: the conditions for growing mother plants and seeds, the conditions for seed formation, methods of harvesting and drying the testes.

Table 4 The number of non-shooting plants, depending on the timing of planting mother liquor

Planting date	Non-firing plants or "stubborn", pcs.		
	on a plot	per 1	in% of the total number of plants
01.09	2,10	2142	3,0
15.09 contr.	2,24	2285	3,2
30.09	2,31	2357	3,3
15.10	2,40	2429	3,4
30.10	2,70	2714	3,8

The influence of the timing of planting onion mother plants on the sowing quality of seeds in Central Asia was studied by F.Sh. Rajabov (1970). According to him, the seeds from the spring planting dates of mother plants had a lower mass of 1000 seeds and the germination capacity of the P-class, while the seeds from the autumn planting dates met the requirements of GOST for the 1st class.

In our experiments, a sharp decrease in the quality of seeds, depending on the timing of planting of mother plants, was not noted, which is consistent with the opinion of K. Ergesheva (1985). However, it should be noted that a certain tendency towards a decrease in the physical and sowing qualities of seeds from early autumn planting to late autumn is traced (Table 5).

Table 5 Physical and sowing qualities of onion seeds, depending on the timing planting queen cells

Planting date	Weight 1000 seeds, g	Germination energy, %	Seed germination, %
01.09	3,96	84	98
15.09 contr.	3,92	84	97
30.09	3,92	82	94
15.10	3,91	81	93
30.10	3,89	80	88
P%	0,9		
HCP ₀₅	0,03		

So the mass of 1000 seeds when planting mother plants on September 1 was 3.96 g, and when planting on October 30 -3.89 g. The germination energy and seed germination naturally decrease, but according to existing

standards they meet the requirements of the 1st class. A slight decrease in the physical and sowing qualities of seeds of late planting dates of mother plants should be explained by the state of the plants themselves, as well as by the conditions in which the formation of seeds occurs at these planting dates.

The studies carried out by us have shown that the best time for planting mother liquors is September 1. The seed yield in this planting period was 9.7 c / ha, which is 25% more than the control variant - September 15.

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