ISSN: 2582-4686 SJIF 2021-3.261,SJIF 2022-2.889,
2023-5.384 ResearchBib IF: 8.848 / 2024

THE MULTIDISCIPLINARY JOURNAL OF SCIENCE AND TECHNOLOGY

VOLUME-4, ISSUE-12

UDC: 635.656: 631.527

SELECTION OF LONG-LENGTH PEASANT VARIETY SAMPLE FROM THE COLLECTION NURSERY

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Annotation. The article presents information about chickpea varieties with high and low pod heights above the ground, selected from a collection nursery.

Key words: chickpea, variety, plant height, pod height above ground.

Chickpea is an annual plant belonging to the genus Cicer of the Fabaceae family. Currently, there are 27 species of chickpea, of which only one species, Cicer arietinum L., is cultivated as a cultivated crop [5], [2], [7]. All varieties of this species are divided into 2 groups according to their use: food varieties - the grain of these varieties is light yellow and is used for food: fodder varieties - the grain is dark brown and is mainly used for animal feed [8].

The height of the food pea plant, the height of the lower pod above the ground, and the upright growth of the stem are of great importance for mechanized harvesting of the grain crop.

In legumes, including chickpea, the upper part of the stem of the above-ground organs does not end with a flower. Therefore, the pea plant can grow for a long time, not limited by favorable environmental conditions. In plants, under the influence of external environmental factors, namely, a decrease in soil moisture and an increase in air temperature, as well as with the onset of the generative period of plant development, the growth rate (speed) decreases significantly. The fact that light, heat and moisture have a greater effect on the growth rate of a plant than external environmental factors has been confirmed by many years of experiments.

Many scientists from many countries who conducted research on the creation of new varieties of pea plants, recognizing the importance of plant height, have always selected tall, densely located varietal specimens for the parent forms [5]. Rustamov S. noted in his scientific research that there is a positive correlation between tallness and late maturity of peas [6].

When studying pea varieties belonging to geographically different ecotypes (Asia, Mediterranean, Europe) in irrigated lands of Uzbekistan, the growth rates of plants belonging to these ecotypes varied during the growing season. The highest indicator was observed in the

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European ecotype, where its plant height reached 87 cm, or 21.3 cm higher than the Asian ecotype and 19.7 cm higher than the Mediterranean ecotype (Hamdamov I., Narzullaeva M., 2012).

Materials and methods. 204 pea varieties studied in the collection nursery of the Laboratory of Legume Selection and Seed Production of the Lalmikor Research Institute of Agriculture were considered experimental materials.

Experimental observations and analyses were analyzed according to the methodological manuals of the DDEITI Gallaorol ITS [1], the All-Union Institute of Plant Science [3], and the classifier of the former All-Union Research Institute of Plant Science (RODA CICER L.1980) [4].

According to the results of biometric analysis, pea varietal samples were divided into 5 groups according to height. Varietal samples with a height of <25 cm were classified as very short, 26-30 cm as short, 31-35 cm as medium, 36-40 cm as tall, and those with a height of more than 41 cm as very tall.

The classifier (RODA CICER L.1980) - methodological manual indicates the division of pea variety samples into groups according to the growth period: very early (ripening >5 days earlier than the standard), early (ripening 3-5 days earlier), medium (ripening up to 2 days earlier, ripening on the same day and up to two days later), late (ripening 3-7 days later), very late (7< days).

Research results. According to the results of biometric analysis, it was determined that 17 varieties belonged to the very short group, 87 to the short group, 66 to the medium group, 25 to the tall group, and 9 to the very tall group.

There were 15 cultivars with pods below 15 cm from the ground, and 181 cultivars with pods between 15 and 25 cm. 8 cultivars with pods above 25 cm from the ground were selected for further study in the selection process (Table 1).

1-Table.

Varietal samples selected according to plant height and pod height above the ground (Gallaorol, 2024))

№	Sample name	Plant height, cm	Height of the lower leg above the ground, cm	Growing season, days	Productivity, g/m²
1	Yulduz (and)	33,0	17,0	71	78,0
2	FLIP 10-182C	42,0	31,0	77	43,5
3	FLIP 10-196C	43,0	30,0	74	52,0

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4	FLIP 12-217C	42,0	32,0	76	46,0
5	FLIP 13-301C	42,0	30,0	77	76,0
6	FLIP 17-79C	46,0	38,0	77	38,0
7	FLIP 17-44C	42,0	36,0	74	39,0
8	FLIP 17-65C	44,0	35,0	76	69,0
9	ILC 3279	49,0	28,0	77	28,0
10	FLIP 17-68 C	45,0	27,0	76	74,0
Correlation between plant height and growth period				r = 0,79	
Correlation between plant height and grain yield					r = -0,55

The duration of the growing season of pea varieties in this agricultural year was 66-99 days. According to the results of phenological observations, there were 2 very early ripening varieties, 11 early ripening varieties, 86 mid-ripening varieties, 70 late ripening varieties, and 35 very late ripening varieties compared to the standard variety.

Conclusion. According to the results of observation and analysis, it was found that there is a strong positive correlation (r=0.79) between plant height and growth period.

A negative correlation (r= -0.55) was found between plant height and grain yield. Among the studied pea varieties, FLIP 13-301C (76 g/m²), FLIP 17-68C (74 g/m²) were selected for study as the initial source in the subsequent stages of the selection process, since their grain yield was close to the standard Yulduz variety (78.0 g/ m²).

References:

1. Amanov A.A. va boshqalar. Donli ekinlar seleksiyasi va boshlang‘ich urug‘chiligi bo‘yicha uslubiy qo‘llanma. G‘allaorol 2004 yil.

2. Вавилов П.П. Нут. Растениеводство. М. Агропромиздат. 1988. с. 190.

3. Изучение мировой коллекции пшеницы. Методические указания. ВИР. Ленинград 1984.

4. Классификатор (RODA CICER L.) (Нут). Ленинград 1980.

5. Мирошниченко И.И., Павлова А.М. Нут. Москва-Ленинград.-1953.с. 155.

6. Рустамов С. К вопросу селекции нута в горной зоне богары. //Пути повышения урожаев зерновых, зернобобовых и кормовых культур при интенсивной технологии. Ташкент.-1989. с. 58-61.

7. Шукуруллаев П.Ш. Биолого-экологическая и агрономическая оценка форм и сортов нута в условиях богары Узбекистана. Автореф. канд.с/х.н. Ташкент. 1968. С. 24

8. Hamdamov I.H., Shukurullaev P.Sh., Mustanov S.B. Sug‘oriladigan yerlarda xo‘raki no‘xatning navlarini sinash. Bozor iqtisodiyotiga o‘tish davrida q\x-da ishlab chiqarishda samaradorlikni oshirish omillari. Professor o‘qituvchi va aspirantlar 53-ilmiy hisobot konferensiya ma’ruzalar to‘plami. Samarqand. 1995. b. 24.