

Opportunities and importance of growing linseed fiber in the Fergana Valley

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Annotatsiya: Ushbu maqolada Farg‘ona vodiysida zig‘ir tolasini yetishtirish imkoniyatlari ilmiy asosda yoritilgan. Zig‘ir ekinining agroiqlim sharoitiga moslashuvi, tola hosildorligi va sifati bo‘yicha dala tajribalari o‘tkazildi. Natijalarga ko‘ra, zig‘ir ekologik toza, kam resurs talab qiluvchi va iqtisodiy jihatdan foydali ekin sifatida baholandi. Zig‘ir yetishtirish Farg‘ona vodiysida to‘qimachilik xomashyo bazasini diversifikatsiya qilishda muhim omil bo‘lishi mumkinligi isbotlandi.

Kalit so‘zlar: Zig‘ir tolası, Farg‘ona vodiysi, agroiqlim, hosildorlik, ekologik tozalik, to‘qimachilik.

Аннотация: В данной статье научно обоснована возможность выращивания льна в Ферганской долине. Проведены полевые испытания по адаптации льна к агроклиматическим условиям региона, а также по урожайности и качеству волокна. Результаты показали, что лен является экологически чистой, мало ресурсоёмкой и экономически выгодной культурой. Выращивание льна может сыграть важную роль в диверсификации сырьевой базы текстильной промышленности Ферганской долины.

Ключевые слова: Льняное волокно, Ферганская долина, агроклимат, урожайность, экологическая чистота, текстиль.

Abstract: This article scientifically substantiates the feasibility of cultivating flax fiber in the Fergana Valley. Field experiments were conducted to assess the adaptation of flax to agro-climatic conditions, as well as fiber yield and quality. The results demonstrated that flax is an environmentally friendly, low-resource, and economically viable crop. Flax cultivation could play a key role in diversifying the raw material base of the textile industry in the Fergana Valley.

Keywords: Flax fiber, Fergana Valley, agro-climate, yield, ecological sustainability, textile industry.



ENTER

Linen (*Linum Usitatisimum* L.) - One of the ancient and universal technical crops, its fiber and fat valuable industrial raw materials. From linse fiber materials used in quality fabrics, technical tissue and medical industries are made. The oil obtained from the seeds is widely used in the food, pharmaceuticals and chemical industries. In the context of Uzbekistan, there are prospects for leakage in areas where there is a high agro-assegating agricultural capabilities such as the Fergana Valley.

Intensive culture of the main fiber source in Uzbekistan is high pressure on water resources, as well as the degradation and monocrotic problems are intensifying. In this regard, resource savers and planting stable crops remain one of the most important issues. The linen deserves noteworthy as an alternative to these complicates in these requirements. However, the agro-technical foundations, profantability and practical results of linse growing in the Fergana Valley have been poorly studied. This article is aimed at filling this scientific gap.

During the study, two types of linen - "Pskovsky" and the vegetation period in various agro-countriesis of the Fergana Valley (Fergana, Andijan and Namangan) were analyzed, productivity, fiber quality parameters. The effects of soil moisture, temperature, agrofone and agro-technical measures was observed. Based on the results obtained, the regional adaptation level and economic efficiency were evaluated.

Foreign research on linen (A.N. Beketov, 2015; V. Romanov, 2020; FAO, 2022) provides its rich information on factors and technology that affect fiber quality. In Russia, Belarus and Canada, the lineage is being successfully grown on the industrial scale of flax. Full systematic research on this topic in science in Uzbekistan is not enough, mainly limited to historical agronomical observations. Therefore, modern methodic, based on local conditions, play an important role in innovative research ..

METODOLOGY

- An experimental approach based on practical field tests and laboratory analysis was used in this study. Two varieties of linen - "Pskovsky" and "Vnilie"

were planted on the basis of three repeated experience in different regions of the Fergana Valley (Fergana, Andijan). The study covers the Vegetation period in 2023-2024.

- Data collection methods
- To collect data, the following parameters were measured regularly:

Duration of vegetation period (days);

- **fiber yield (s / ha);**
- **Seed yields (S / ha);**
- **Fiber quality indicators: length, elasticity, hygroscopic;**
- **Soil temperature and humidity;**
- **Climate factors (air temperature, precipitation, sunlight), citing official**

data of the Hydromet service.

Methods of analysis

The result was a desertical statistical analysis. Average values, dispersions and reliability intervals on each variety (\pm)count. ANOVA (dispersion The impact of linen, sowing points and agro-technical measures was also statistically assessed by the analysis) ($P < 0.05$). Fiber quality indicators have been analyzed on the basis of the agreement of industry standards (GOST 10332-76).

Experimental places

- **Fergana district - Smoothal soil, moderary moisture;**
- **Andijan district - irrigated ground soil;**
- **Namangan district - Average climate, weakly saline lands.**
- **Equipment and machinery**
- **Microscope and the length of the fiberalysis;**
- **Drying a hygrometer and scale to detect moisture;**
- **PH-mrs for soil analysis was used, EC regional and moisture sensor.**

Result of research

The vegetation period of linen and adaptation to the agro-lif

Pskovsky and Vniil varieties, which took part in the study, were planted in three districts of the Fergana Valley (Fergana, Andijan, Namangan). The growing season occurred between 85-100 days, which shows that it is fully consistent with the agro-assembly conditions of the region. The linen was highlighted in early spring (early



March), which is explained by the optimal temperature during the growing season (18-25 ° C) and moisture content.

Productivity results

The following table shows the fertility performance of linen in each region (s / ha):

1-table

Region	type	Fiber yield (s /	Seed yields (S / ha)
Fergana	Pskovskiy	13.5	7.2
Fergana	VNII	14.1	6.8
Andijan	Pskovskiy	12.8	7.5
Andijan	VNII	13.0	7.1
Namangan	Pskovskiy	11.2	6.4
Namangan	VNII	11.7	6.2

These results show that the highest productivity was observed in Fergana district, where agro-class conditions were optimal.

•• Fiber Quality Indicators: According to laboratory tests, the high number of Navi Fiber Case (28-32 mm), the length of the Navi Fiber (28-32 mm), was also evaluated. In Pskovsky, the fibers are relatively denser, and technical textiles (IP production) can be effective. • Fiber Quality Indicators: According to laboratory tests, the high number of Navi Fiber Case (28-32 mm), the length of the Navi Fiber (28-32 mm), was also evaluated. In Pskovsky, the fibers are relatively denser, and technical textiles (IP production) can be effective.

Economic analysis: With the average of 1 hectare of land, with seeds and 7 s / to 7 s / to 7 s / to 24-26 million per hectare. Due to the fact that the linen requires a small resource, its production cost is lower than cotton.

Foreign activities carried out in three different soils and climatic conditions of the Fergana Valley have shown that the average quality fiber can be obtained from 1 hectare when selected in accordance with the remote variety and agro-technical measures. These results are competitive in the compared with research in Russia and Belarus (Bekhetov, 2015; Khisamutdinov, 2019).

The flax is distinguished by the fact that it takes less water than cotton, fertilizer and processing. At the same time, the quality of fiber meets international



requirements as environmentally friendly biological raw materials. It describes GOST 10332-76 on fiber hygroscopic, elasticity and length as a prospective raw material for the textile industry

Conclusion

Research on linseing in the Fergana Valley has shown that agroisimatic factors in the region are convenient for linseed for the cultivation of the region. Pskovsky and Vnilie varieties, who participated in the study, were characterized by high yield and quality fibers.

Fiber and seeds of linen are both economic and environmentally useful, applied in textiles, food and pharmaceutical industries. Especially based on low resource and the short growing season is cultivating it as an alternative technical crop.

As a solution for the problem, landscaping should be introduced in the Fergana Valley, improving the system of agro-technical services and further expansion of selection-experience. In addition, it will increase the creation of new job profit in the region by creating a chain of product processing.

USE OF LITERATURE

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