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PHENOLOGY OF CHINESE SAMPLES OF CORN PLANTED IN THE SIRDARYO REGION

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Abstract
This article examines the phenological stages of development of Chinese corn varieties planted in the agroclimatic conditions of the Syrdarya region. The study analyzed the duration of seed germination, vegetative development, flowering, grain formation, and ripening. The influence of the climatic and soil conditions of the Syrdarya region on the growth of Chinese hybrids was also assessed. The results of the study are important for the selection of high-yielding and rapidly adaptable corn varieties in the region.

Keywords: Corn, phenology, Chinese varieties, growing season, Syrdarya region, agroclimate, yield, breeding.

SIRDARYO HUDUDIDA EKILGAN MAKKAJO‘XORINING XITOY NAMUNALARINING FENOLOGIYASI

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Annotatsiya:
Mazkur maqolada Sirdaryo viloyati agroiqlim sharoitida ekilgan Xitoy seleksiyasiga mansub makkajo‘xori namunalarining fenologik rivojlanish bosqichlari o‘rganildi. Tadqiqot davomida urug‘ning unib chiqishi, vegetativ rivojlanish, gullash, don hosil qilish va pishish davrlarining davomiyligi tahlil qilindi. Shuningdek, Sirdaryo hududining iqlim va tuproq sharoitlari Xitoy

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gibridlarining o‘sishiga ta’siri baholandi. Tadqiqot natijalari hududda yuqori hosildor va tez moslashuvchan makkajo‘xori navlarini tanlashda muhim ahamiyatga ega.

Kalit so‘zlar: makkajo‘xori, fenologiya, Xitoy navlari, vegetatsiya davri, Sirdaryo viloyati, agroiqlim, hosildorlik, seleksiya.

Аннотация
В данной статье изучаются фенологические стадии развития образцов китайской кукурузы, высаженных в агроклиматических условиях Сырдарьинской области. В ходе исследования анализировались продолжительность периодов прорастания семян, вегетативного развития, цветения, формирования зерна и созревания. Также оценивалось влияние климатических и почвенных условий Сырдарьинской области на рост китайских гибридов. Результаты исследования важны для отбора высокоурожайных и быстро адаптирующихся сортов кукурузы в регионе.

Ключевые слова: кукуруза, фенология, китайские сорта, вегетационный период, Сырдарьинская область, агроклимат, урожайность, селекция.

Introduction

Today, ensuring food security in agriculture is one of the most important tasks. Among grain crops, corn occupies a special place. It is of great importance not only as a food product, but also as a fodder for livestock and industrial raw materials. Therefore, the creation and introduction of high-yielding and climate-resistant varieties in various agro-climatic regions is considered one of the urgent issues.
In recent years, much attention has been paid to testing foreign selection varieties in Uzbekistan. In particular, corn hybrids of Chinese selection are distinguished by a short growing season, drought resistance and high yield. The Syrdarya region is characterized by a continental climate, hot and dry summers, and the presence of

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irrigated lands. Studying the phenological characteristics of varieties grown in this region is an important factor in obtaining high yields.

Phenology is a science that studies the stages of growth and development of plants under the influence of the external environment. Phenological observations determine the vegetation period, flowering and ripening periods of the plant. This allows for an in-depth study of the biological characteristics of varieties.

Phenological observations are carried out at the following stages:

- □ seed germination;
- □ 3–5 leaf formation period;
- □ stem elongation;
- □ tillering;
- □ flowering;
- □ grain setting;
- □ milk ripening;
- □ wax ripening;
- □ full ripening period.

During the observations, the beginning and end dates of each development stage are recorded. Plant height, number of leaves, stem thickness and yield indicators are also studied.

Agroclimatic characteristics of Syrdarya region

Since Syrdarya region is one of the arid regions of the republic, air temperatures in the summer months can exceed +38°C. Due to the low rainfall, irrigation is a key factor.

The soils of the region are predominantly gray soils, with some areas experiencing salinity. In such conditions, rapid adaptation of crops and efficient use of water are important.

Since corn is a thermophilic plant, the conditions of the Syrdarya region are favorable for its development. However, high temperatures and lack of moisture can lead to a reduction in the vegetation period or a decrease in yield in some varieties.

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Phenological observations determine the ecological adaptability of varieties. Observations conducted in the Syrdarya region show that Chinese corn hybrids are well adapted to hot and arid conditions.

Also, based on phenological data, it is possible to:

• correctly determine planting dates;
• optimize irrigation standards;
• effectively use mineral fertilizers;
• select high-yielding varieties.

Accurate observation of phenological stages is an important factor in increasing productivity and rational use of resources.

Chinese corn samples have the following advantages:

1. High germination;
2. Drought resistance;
3. Adaptation to a hot climate;
4. High yield;
5. Good grain quality.

Some hybrids developed well even on saline soils. This allows them to be evaluated as promising varieties in the conditions of the Syrdarya region.

Conclusion

The work carried out within the framework of this topic has shown that corn varieties imported from foreign countries differ from each other in their degree of adaptation to local conditions, yield and growth characteristics. Some varieties quickly adapt to the climate and give good results, while others require additional care.

In general, the efficiency of corn cultivation can be increased when properly selected varieties and agrotechnical measures are used. Therefore, it is important to take into account the climate and soil conditions of the region when choosing a variety. Based on the results of the study, it was concluded that promising corn varieties of Chinese selection can be widely introduced in the conditions of the Syrdarya region.

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In the future, a more in-depth study of the salinity resistance, water consumption requirements and yield indicators of these hybrids will be of significant scientific and practical importance.

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