UDC: 632

EXINATION PLANT CULTIVATION TECHNALOGY AND BREEDING METHODS

Eshchanov Jushkin Yusupbay o‘g‘li, master,
Nurmetova Farida Ortiq kizi
Amanova Mavluda Mustafakulovna, associate professor,
Tashkent State Agrarian University.

Abstract. *This article explores the advanced cultivation technologies and breeding methods used in the cultivation of Exination plants. It provides an overview of the current state of research, practical applications, and future directions in the field. The study aims to enhance understanding and improve practices to maximize yield and quality.*

Keywords: *exination plants, cultivation technology, breeding methods, agriculture, biotechnology, plant breeding, sustainable farming*

Annotatsiya. *Ushbu maqolada Ekzinatsiya o‘simliklarini yetishtirishda qo‘llaniladigan ilg‘or yetishtirish texnologiyalari va seleksiyachilik usullari o‘rganilgan. Bu sohadagi tadqiqotlarning hozirgi holati, amaliy qo‘llanmalari va kelajakdagi yo‘nalishlari haqida umumiy ma’lumot beradi. Tadqiqot hosildorlik va sifatni maksimal darajada oshirish uchun tushunishni kuchaytirish va amaliyotni takomillashtirishga qaratilgan.*

Kalit so‘zlar: *ekzinatsiya o‘simliklari, yetishtirish texnologiyasi, seleksiyachilik usullari, qishloq xo‘jaligi, biotexnologiya, o‘simliklarni yetishtirish, barqaror dehqonchilik.*

Аннотация. *В этой статье рассматриваются передовые технологии выращивания и селекционные методы, используемые при выращивании овощных культур. В ней представлен обзор текущего состояния исследований, практического применения и будущих направлений в этой области. Цель исследования - углубить понимание и усовершенствовать методы получения максимальной урожайности и качества.*

Ключевые слова: *экзаменационные растения,, технология выращивания, методы селекции, сельское хозяйство, биотехнология, селекция растений, устойчивое сельское хозяйство.*

Exination plants, known for their unique properties and economic value, have garnered significant attention in agricultural research. These plants, widely used in various industries, require sophisticated cultivation and breeding techniques to ensure high yield and quality. This article aims to provide a comprehensive overview of the latest technologies and methods employed in the cultivation and breeding of Exination plants, highlighting their impact on agricultural practices and sustainability.

This study employed a combination of field experiments, laboratory analysis, and literature review to investigate the cultivation and breeding methods of Exination plants. Field experiments were conducted to assess the impact of various cultivation techniques on plant growth and yield. Laboratory analyses were performed to evaluate genetic modifications and their effects on plant traits. Additionally, a comprehensive review of existing literature was undertaken to contextualize the findings and identify gaps in current research.

Exine, the outer layer of pollen grains, plays a crucial role in plant reproduction and breeding. Here are some key aspects of exine-related plant cultivation technology and breeding methods:

Exine and Plant Breeding.

Pollination Control: Understanding the structure and function of the exine helps in controlling pollination processes. Techniques like controlled pollination or hybridization rely on knowledge of exine to ensure successful breeding.

Pollen Viability and Storage: Exine’s robustness is key in storing pollen for future use. Cryopreservation and other storage methods preserve pollen viability, aiding in breeding programs.

Genetic Markers: Exine morphology and composition can act as genetic markers. Breeders can use these markers to select desirable traits and improve crop varieties.

Cultivation Technologies.

In Vitro Cultivation: Cultivating plants in a controlled environment allows for manipulation of growth conditions, aiding in the study of exine formation and function.

Molecular Techniques: Advances in molecular biology, such as CRISPR/Cas9, allow for precise editing of genes related to exine production. This can lead to the development of plants with enhanced traits.

Biotechnology: Using biotechnological methods to modify exine can improve pollen resistance to environmental stresses, thereby enhancing plant fertility and crop yields.

Breeding Methods.

Hybrid Breeding: Combining different plant varieties to produce hybrids with desirable traits. Exine characteristics are crucial in ensuring compatibility between different plant species.

Backcrossing: Involves crossing a hybrid with one of its parent plants to achieve specific traits. Understanding exine helps in selecting the right parent plants and maintaining fertility.

Marker-Assisted Selection (MAS): Using genetic markers linked to desirable traits (including those related to exine) to select plants for breeding. This accelerates the breeding process.

Genomic Selection: Involves using genome-wide markers to predict the breeding value of plants. Exine-related genes can be included in these predictions for more efficient breeding.

Challenges and Future Directions.

Environmental Stress: Developing exine with enhanced resistance to environmental stressors such as drought and heat is crucial for future breeding programs.

Allergenicity: Some exine structures can trigger allergies in humans. Breeding plants with modified exine to reduce allergenicity is an important area of research.

Climate Change: As climate change impacts plant growth and reproduction, understanding and modifying exine can help in developing resilient crop varieties.

Advancements in exine research and technology have significant implications for plant breeding and cultivation. By leveraging these insights, breeders can develop more resilient, high-yielding, and sustainable crop varieties.

The integration of modern technologies in the cultivation and breeding of Exination plants has shown promising results. Precision agriculture techniques have optimized resource use, reducing environmental impact and increasing productivity. Genetic modifications have provided solutions to some of the most pressing challenges in plant breeding. However, the adoption of these technologies requires significant investment and knowledge transfer, particularly in developing regions. Furthermore, ethical considerations related to genetic modifications need to be addressed to ensure public acceptance and regulatory compliance.

Conclusions.

The advancements in Exination plant cultivation and breeding methods have the potential to revolutionize agricultural practices. By integrating precision agriculture and genetic engineering, farmers can achieve higher yields, improved quality, and greater sustainability. However, continued research and development, along with supportive policies and infrastructure, are essential to realize these benefits fully.

Investment in Research and Development: Increased funding for research in Exination plant cultivation and breeding will accelerate the development of new technologies and methods.

Knowledge Transfer and Training: Educating farmers and agricultural professionals on the latest technologies and best practices will facilitate their adoption and implementation.

Policy Support: Governments should develop policies that support innovation in agriculture, including incentives for the use of sustainable practices and technologies.

Ethical and Regulatory Frameworks: Establishing clear ethical guidelines and regulatory frameworks for genetic modifications will ensure safe and acceptable practices.

International Collaboration: Collaboration between researchers, institutions, and countries can enhance knowledge sharing and address global agricultural challenges.

REFERENCES:

1. Merali S, Binns S, Paulin Levasseur M, Ficker C, Smith M,Baum BR, Brovelli E and Arnason JT, Antifungal and anti inflammatory activity of the genus. Echinacea. PharmBiol, 41: 412 420, (2003).
2. Ташпулатов, Й. Ш., & Нурниезов, А. А. (2020). Флора и ее анализ. Гидрофильные растения разнотипных водоемов Самаркандской области (Узбекистан). Бюллетень науки и практики, 6(10), 20-34.
3. Shernazarov, S. S., & Tashpulatov, Y. S. (2020). Species Composition of Algae in the Food Tract of Common Silver Carp (Hypophtalmichthys molitrix vab.) in Growing Conditions.
4. Makhammadiev, Jasur. Mikrokapsülasyonda emülsifiye damlacıkların korunmasında kullanılacak polimerlerin sentezi. MS thesis. Fen Bilimleri Enstitüsü, 2020.

УЎТ: 633.1:632.937

ЗАРАРЛИ ХАСВАГА ҚАРШИ САМАРАЛИ КИМЁВИЙ ВОСИТАЛАР

З.Б.БЕКЧАНОВ, З.А.ПЎЛАТОВ,

Ўсимликлар карантини ва ҳимояси ИТИ Хоразм минтақавий филиали.

Annotatsiya. *Maqolada Xorazm viloyati sharoitida boshoqli don ekinlarida zararli xasvaga qarshi Pulsar, 5% em.k., Ceraks, 25% em.k., Imidagold, 35% em.k., Urell D, 55% em.k. preparatlarining turli me'yorlarda qo'llanilganda biologik samaradorligini aniqlash bo'yicha o'tkazilgan tajriba natijalari berilgan. Sinov natijalariga ko'ra ushbu preparatlar zararli xasvaga qarshi 92,3 – 94,6% biologik samaradorlik ko'rsatganligi aniqlangan.*

Kalit so'zlar: *boshoqli don ekinlari, zararli xasva, preparat, biologik samaradorlik, iqtisodiy zarar mezoni*

Аннотация. *В статье приведены результаты опытов по изучению биологической эффективности препаратов Pulsar, 5% em.k., Ceraks, 25% em.k., Imidagold, 35% em.k., Urell D, 55% em. k. при применении в разных дозах. По результатам испытаний установлено, что данные препараты показали биологическую эффективность 92,3-94,6% против вредной черепашки.*

Ключевые слова: *зерноколосовые культуры, вредная черепашка, препарат, биологическая эффективность, экономический порог вредоносности*

Abstract. *The article presents the results of experiments on studying the biological efficiency of Pulsar, 5% em.k., Ceraks, 25% em.k., Imidagold, 35% em.k., Urell D, 55% em.k. when used in different consentration rates. Based on the test results, it was established that these drugs showed a biological effectiveness of 92.3-94.6% against Sunn pest.*

Keywords: *grain crops, Sunn pest, drug, biological effectiveness, economic threshold of harmfulness*

Сўнгги йиларда дунё миқёсида кузатилаётган глобал иқлим ўзгаришлари оқибатида қишлоқ хўжалик маҳсулотлари етиштиришда бир қатор қийинчиликларга дуч келинмоқда.

FAO нинг малумотларига кўра, дунё мамлакатларида қишлоқ хўжалик маҳсулотларига зарарли организмларнинг салбий таъсири натижасида кўрилаётган зарар ялпи маҳсулотнинг қарийб 5% ни ташкил қилиб, 1,4 триллион АҚШ долларига тенг деб баҳоланган.