



基因编辑技术在猪分子育种中的研究进展及发展趋势

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摘要 基因编辑技术为猪(*Sus scrofa*)分子育种提供了新的解决方案。通过基因编辑技术,可以实现精准、高效的基因编辑,为生猪育种工作提供了强大的工具。基因编辑不仅可用于快速、精准地改善生长速度、提高抗病能力,从而增强生猪的饲养效益,还能优化猪肉的质量、提升口感,甚至改善其营养成分,以满足消费者对于高品质、健康猪肉的日益增长的需求。然而,基因编辑技术的应用在技术方面仍然存在不小的挑战,例如脱靶效应。因此须加大技术创新,以解决这些制约猪基因编辑育种效率的问题,推动基因编辑技术在猪抗病育种中的广泛应用。本文综述了基因编辑技术在猪分子育种中的最新进展,包括技术进步、应用现状及面临的挑战,为我国生猪抗病育种研究提供参考。

关键词 基因编辑技术;猪分子育种;挑战

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Research Progress and Development Trend of Gene Editing Technology in Pig (*Sus scrofa*) Molecular Breeding

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Abstract Gene editing technology provides a new solution for pig (*Sus scrofa*) molecular breeding. Gene editing technology can achieve accurate and efficient gene editing, providing a powerful tool for breeding pig. Gene editing can not only be used to quickly and accurately improve growth rate and disease resistance, thereby enhancing the feeding efficiency of pigs, but also optimize the quality, taste and even nutritional content of pork to meet the growing consumer demand for high-quality, healthy pork. However, there are still many technical challenges in the application of gene editing technology, such as off-target effects. It is necessary to increase technological innovation to solve these problems restricting the efficiency of pig gene editing breeding, and promote the wide application of gene editing technology in pig disease resistance breeding. This paper summarized the latest development of gene editing technology in pig molecular breeding, including technical progress, application status and challenges. This review provides reference for breeding of disease resistance in China.

Keywords Gene editing technology; Pig molecular breeding; Challenge

随着生物技术的飞速发展,基因编辑技术已经 括农业、医学和生物技术中,基因编辑技术都展现成为了生物科学领域的重要工具。在许多领域,包 出了巨大的潜力。家猪(*Sus scrofa*)作为广受欢迎的

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