

Research Advances in Animal Genetics Breeding Method

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Abstract. With the rapid development of China's economy and the gradual improvement of the socialist modernization, science and technology has been the development and application. While human research biotechnology, we also have a new understanding of animals genetic engineering. To some extent, promoting the development of animal genetic breeding is a main content to measure the country's technological development, but also the pace of modernization process forward. With genetic is advancing, animal breeding and genetics has undergone a process of continuous improvement from the initial phenotype to the recombinant of DNA technology, to the molecular, genetic and breeding methods have achieved a revolutionary change and play a positive role in promoting the development of genetics. It is also the leader of new changes in technology in the new century. Expand animal genetic breeding technology research based on the theoretical basis in order to advance the reform and technological innovation.

Introduction

In the 21st century, the gradual improvement of socialist modernization, molecular breeding theory has been widely promoted, based on animal genetics and breeding technology is to become a professional embodied technology, animal genetic research can not only promote the development of zoology, or modernization important initiatives, will lead the era of development and progress. Currently, the new technological revolution began to rise, to carry out genetic studies zoology help using modern molecular biological technology to change the traditional way of technical studies, highlighting the high level, greatly improve breeding efficiency. According to the survey, with the deterioration of the environment, the furniture and the impact of global warming pollution, diversity of animals is less, every year from the world's animal species disappear. In order to ensure animal diversity, promoting the harmonious development between man and nature, we humans must adhere to innovation, methods of animal breeding and genetics research, promote the development of technology based on history, highlighting the advantages and the role of modern technology and its effective application to achieve better propulsion technology promotion and development, to lay the foundation for the development of animal genetics.

Research Progress in Animal Breeding and Genetics Methods

The Number Genetics and Animal Breeding. Quantitative genetics is the study of animal breeding way shape and number of animals carried out based on great significance in animal breeding process, in particular the principle is based on the number of frequencies to improve the use of gene technology in breeding applications, reduce the impact of harmful genes improve the performance of the method helps to ensure the healthy growth of the animals. Among them, the most basic measure of the three elements of the repetition rate, heritability and related data between the three closely related, conducting research and breeding techniques must do a comprehensive job.

First, estimate genetic parameters. Genetic parameters are based primarily on animal genetics and breeding need to consult, researchers must use the scientific method, with the formula, by squaring the difference, do data covariance component estimation budget.

Second, animal's genetic evaluation. This kind of study is to assess the value of livestock and poultry breeding carried out in the entire work session based on the center position, requires a

combination of value and measure the level of assessed value, wherein the method comprises selecting a commonly used index, group comparison and mixed linear model law. Selection index is the most basic way, in the weighting of animal genetic, after various values ancestors, fellow conclusions; comparison group help to influence the shape of correcting environmental differences, to avoid affecting the economic characteristics; mixed linear model approach has double effect, fixed effects model estimates and forecasts random genetic conditions, help to improve the accuracy of the breeding work.

Modern Biotechnology and Animal Breeding. Animal breeding emergence of new vitality and it mainly relies on advancing modern molecular biology techniques, through the integrated application of technology and it is contributing to the overall good progress in studies.

Gene chip technology. Combined with animal breeding and gene chip technology, it originated in the 1990s, and so far only about 20 years, and its development and application greatly promoted the technical progress. The technology in a chip can be completed more than a hundred times a routine examination, the use of a shorter time to obtain vast amounts of information, simplifying the intermediate processes. Gene expression levels were nailed for a fixed probe detection of genes under different conditions can be compared, speed up research and to provide reference for the research of new varieties. Resequencing microarray for gene will accelerate the identification of DNA polymorphisms, and promote new varieties of produce. While technological advances make useful PCR target sequence amplification acceleration simple as possible, but with full manual gel method to analyze the final result of limiting the polymorphism; and gene chip can analyze hundreds or thousands of parallel polymorphisms problem. This can work to provide accurate reference data and information support for information about production, technology, environment, and improve all aspects of animal breeding. In addition, with the promotion and development of biotechnology, genetic combination of goat and sheep hybridized together problems arise changes have also occurred, which need scanning and optical technology, using a microscope to observe to do, in order to identify each of the morphological appearance show different characteristics DNA, design research new technologies.

The genetic marker assisted selection and animal breeding. The accuracy of a direct impact on the accuracy of genetic evaluation and selection of breeding efficiency. Phenotypic selection and index selection are only utilizing phenotypic and pedigree information to infer individual breeding value, the control of the trait gene transfer behavior and action effects, and location on the chromosomes don't understand. Development of molecular biology techniques, the control structure of quantitative trait loci, action effect, transfer behavior as well as research on the chromosome location is possible and people can take advantage of phenotypic information, pedigree information and marker information to make more accurate the genetic evaluation.

Isolation and identification of quantitative trait loci, QTL analysis of economic traits position in the genome association analysis must be prepared to observe the changes in gene frequency size, by mapping studies organizational relationships; QTL main breeding efficiency can be understood in general information, good genes positioned by linkage analysis and interval mapping genes determine the location, with good detection of animal genetic research.

The transgenic technology. The so-called transgenic is exogenous genes into new combinations within the fertilized eggs of animals, reflecting the new genetic characteristics of animals.

First, breeding for disease resistance, the use of recombinant DNA technology will be all kinds of chromosomes together, cultivate new varieties of new creatures; Second, performance improvement, transgenic livestock and poultry production and the introduction of new products, or by way of genetically adjustment animal growth and development, in order to improve animal performance; Third, the production of genetically engineered pharmaceutical preparations, used to prepare the gene product of transgenic animals, such the creatures called bioreactors.

The Development Trend of Animal Genetics and Breeding

Application of Molecular Breeding. The molecular breeding animal breeding and genetics have combined development, is through breeding selection, crossbreeding study on the use of new

technology helps overcome the limitations of traditional methods and diagnostic feature gene shapes the economy, to overcome the shortcomings of traditional breeding techniques to accelerate research and development of new varieties, automated tag.

The Excavation of Excellent Genetic Resources of Livestock and Poultry Breeds. Currently, one of the key points in the international competition in the area is an important biological gene discovery, isolation, cloning, in order to obtain intellectual property rights. So how would the potential benefits of genetic resources of livestock and poultry advantage into reality is an urgent need to solve scientific problems, but also the world as a field of study of common concern.

The Construction of Large-Scale, Efficient Technical Support Platform. Innovative applications of animal breeding research and technology is closely related in the New Era, put large equipment essential for technical support through low-cost, to create a specialized technical platform to help mature animal breeding methods to improve the breeding of new technical.

Conclusion

Overall, with the promotion and exploration of new technology, animal breeding method will reflect the cross between different technologies, through the combined application of genetics, biology and computer technology to help improve technical measures. Using molecular biotechnology, according to molecular quantitative genetics theory to improve livestock breeds, thus creating the animals molecular breeding. Of course, we must carry out the analysis of research progress history of the breeding and promote technological innovation and revolution to promote the development of animal genetics.

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