



*agriculture*



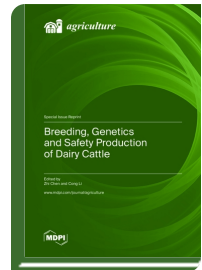
*Special Issue Reprint*

## **Breeding, Genetics and Safety Production of Dairy Cattle**

[www.mdpi.com/books/reprint/7707](http://www.mdpi.com/books/reprint/7707)

Edited by  
Zhi Chen  
Cong Li

ISBN 978-3-0365-8246-7 (Hardback)  
ISBN 978-3-0365-8247-4 (PDF)



The integration of various omics information—such as DNA, RNA, protein, and epigenetic regulation—brings new opportunities for the mining of important economic traits of animals and the analysis of molecular genetic mechanisms. Over the last three decades, world milk production has increased by more than 59%, from 530 million tonnes to 843 million tonnes. However, the genetic mechanisms behind milk fat traits remain largely undetermined. Milk is rich in fatty acids, proteins, and eight essential amino acids needed by the human body. The fatty acids in milk, namely, dodecylic acid, myristic acid, stearic acid, and palmitic acid, are the main energy substances in the human body, accounting for approximately 5, 10, 8, and 27 % of total fatty acids, respectively. Thus, decoding the genetics of milk fat traits can have a potential impact on product development, international trade, and consumption of milk components. This Special Issue focuses on applying the aforementioned advances to explore gene regulation and its molecular mechanisms in milk fat traits. The topics include but are not limited to: Research and application surrounding the genetic basis of important milk fat traits; Mining and function of excellent genetic resources for milk fat traits; Genetics of nutrition metabolism regulation and efficient production of milk fat; Epigenetic research on genes implicated in milk fat traits; High-throughput sequencing research surrounding genetics of milk fat traits; Construction of gene (including circRNA, lincRNA, miRNA, and mRNA) expression regulatory network maps.



Order Your Print Copy  
You can order print copies at  
[www.mdpi.com/books/reprint/7707](http://www.mdpi.com/books/reprint/7707)

MDPI Books offers quality open access book publishing to promote the exchange of ideas and knowledge in a globalized world. MDPI Books encompasses all the benefits of open access – high availability and visibility, as well as wide and rapid dissemination. With MDPI Books, you can complement the digital version of your work with a high quality printed counterpart.



## Open Access

Your scholarly work is accessible worldwide without any restrictions. All authors retain the copyright for their work distributed under the terms of the Creative Commons Attribution License.



## Author Focus

Authors and editors profit from MDPI's over two decades of experience in open access publishing, our customized personal support throughout the entire publication process, and competitive processing charges as well as unique contributor discounts on book purchases.



## High Quality & Rapid Publication

MDPI ensures a thorough review for all published items and provides a fast publication procedure. State-of-the-art research and time-sensitive topics are released with a minimum amount of delay.



## High Visibility

Due to our global network and well-known channel partners, we ensure maximum visibility and broad dissemination. Title information of books is sent to international indexing databases and archives, such as the Directory of Open Access Books (DOAB), and the Verzeichnis Lieferbarer Bücher (VLB).



## Print on Demand and Multiple Formats

MDPI Books are available for purchase and to read online at any time. Our print-on-demand service offers a sustainable, cost-effective and fast way to publish MDPI Books printed versions.