



Insecticide Resistance: The Genetic Basis and Underlying Mechanisms in Pests

Guest Editors:

Dr. Youhui Gong

Institute of Plant Protection,
Chinese Academy of Agricultural
Sciences, Beijing 100193, China

Prof. Dr. Xin Yang

Institute of Vegetables and
Flowers, Chinese Academy of
Agricultural Sciences, Beijing
100081, China

Deadline for manuscript
submissions:

closed (31 July 2025)

Message from the Guest Editors

Insecticide resistance poses a formidable challenge to pest management in agriculture and public health. The genetic basis and underlying mechanisms of insecticide resistance have been the focus of extensive research. This phenomenon is primarily attributed to genetic mutations that confer resistance to insecticides, leading to reduced efficacy of pest control measures. Mechanisms such as enhanced detoxification, target site insensitivity, and behavioral adaptations contribute to the development of resistance. Understanding the genetic factors and molecular mechanisms involved in insecticide resistance is crucial for developing sustainable pest management strategies. This Special Issue seeks to provide a comprehensive overview of the genetic basis and underlying mechanisms of insecticide resistance in pests. It aims to encompass a wide range of topics, including but not limited to, the identification of resistance-conferring genetic mutations, elucidation of detoxification pathways, exploration of target site insensitivity, and understanding behavioral adaptations in resistant pest populations.





an Open Access Journal by MDPI

Editor-in-Chief

Prof. Dr. Leslie A. Weston

Gulbali Centre for Agriculture,
Water and Environment
Research, Charles Sturt
University, Wagga Wagga, NSW
2678, Australia

Message from the Editor-in-Chief

Agronomy draws together researchers from diverse areas of agricultural research with a common aim of enhancing agricultural productivity globally. The journal provides unlimited free access to all those interested in advancing agricultural science from both the research and general community. Papers are released immediately after acceptance through the internet. *Agronomy* is supported by our authors and their institutes through low article processing charges (APC) for accepted papers. We hope you will support the journal by becoming one of our authors.

Author Benefits

Open Access: free for readers, with article processing charges (APC) paid by authors or their institutions.

High Visibility: indexed within Scopus, SCIE (Web of Science), GEOBASE, PubAg, AGRIS, and other databases.

Journal Rank: JCR - Q1 (Agronomy) / CiteScore - Q1 (Agronomy and Crop Science)

Contact Us

Agronomy Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland

Tel: +41 61 683 77 34
www.mdpi.com

mdpi.com/journal/agronomy
agronomy@mdpi.com
X@Agronomy_Mdpi