

Book Review 'Plant Virology' (Indonesian Version)

Uqbah Iqbal*

Managing Director, Pitas Agriculture, Malaysia

*Corresponding author: Uqbah Iqbal, Managing Director, Pitas Agriculture, Kampung Mempakad Darat, 89100 Pitas, Sabah, Malaysia

ARTICLE INFO

Received: 📅 March 22, 2024

Published: 📅 April 08, 2024

Citation: Uqbah Iqbal. Book Review 'Plant Virology' (Indonesian Version). Biomed J Sci & Tech Res 56(1)-2024. BJSTR. MS.ID.008788.

Introduction

Written by Arsi, Rizal Andi Syabana, Supyani Dwiwiyati Nurul Septariani, Ryan Budi Setiawan Tita Widjayanti, Tili Karenina & Junai-riah, this book contains eight chapters. Chapter 1 is about the history of the discovery and importance of viruses, Chapter 2 regarding the nomenclature of plant viruses, Chapter 3 regarding symptom recognition, Chapter 4 regarding transmission and spread of viruses, Chapter 5 regarding control of plant diseases caused by viruses, Chapter 6 regarding the history of the discovery and importance of viruses, Chapter 7 regarding virus ecology and epidemiology, Chapter 8 is about the basics of plant virus diagnosis. Hopefully this virology book can increase readers' insight into the viruses that are currently attacking. Technological developments can contribute to identification of virus development over time. The authors really hope for input and criticism to improve the book. Constructive input and criticism that improves this book is very useful for the authors to write better in the future. Viruses are very small living creatures that can develop and grow in living cells. The virus cannot reproduce itself without any living creatures to host. Viruses don't have cellular equipment in multiplying the virus. Viruses have a protective device in the form of a protein layer or known as a capsid. The protective layer found on viruses encloses nucleic acid molecules and DNA or RNA only. Viruses have a network which is a network that can convey genetic information to the virus. Viruses can also reproduce or replicate on the living creatures they host. Viruses can reproduce themselves if they are inside living things, but they will form crystals when it is in dead cells or inanimate objects. Viruses are microorganisms that are very small in size. To get an idea regarding viruses, tools such as an elec-

tron microscope are needed. The virus cannot be seen directly, but the symptoms that caused by viruses can be seen in infected plants. Plants attacked by viruses can cause characteristic symptoms.

This is due to changes that occur in the plant. Viruses can be seen using a light microscope. Viruses in plants can be seen directly by the symptoms they cause by viruses. Plants that are attacked by viruses can be caused by the presence of insect vectors that transmit disease to the plant. The vector insects that cause symptoms of viral diseases in plants have piercing sucking mouthparts or haustelata. However, the virus attacked plants depend on the presence of wounds or insect vectors that help in infection process in the plant. Viruses that attack plants can cause major losses because viruses can cause failure of production in plants. There are so many viruses that can cause disease. Viruses that cause disease in plants are found in many food crops and horticultural crops. Viruses that attack via insect vectors have similar symptoms caused differently depending on the insect that transmits the disease to the plant. Viruses have the ability to reproduce themselves. However viruses do not have structures like living creatures (Aji, et al. [1-5]. (Yuliani, et al. 2006) Viruses have different meanings, this is due to influence identification in technology and biomolecular in carrying out virus identification. Apart from that, the chemical and physical properties of the virus can be influenced. A virus can be interpreted as a pathogen that can cause disease on plants which can be transmitted through scratches and insect vectors. Viruses in their reproduction use ribosomes and the host plant cells they host, this is because viruses are pathogens that are obligate parasites. Where viruses will not develop or replicate without a host as a place life.

So an obligate parasite is a type of parasite that cannot live in living cells, if it is in a dead cell then the parasite cannot replicate. Viruses have various forms that attack plants. Some viruses are round like a ball or isometric, some viruses are rod-shaped, viruses are flexible rod-shaped, some are thread-shaped, some are bullet-shaped and some are gemini or flower shaped. Symptoms of virus attack on plants can be differ depending on the insect vector that attacks the plant (Sari, et al. [6]). Insects can play a role in transmitting viruses to plants and insects which transmit viruses to plants such as aphids (*Aphid gossypii*), whitefly (*Bemisia tabaci*), aphids (*Myzus persicae*), banana fleas (*Pentaloni nigronervosa*), Fleas that attack the leaves of citrus plants and rose leaves (*Aleurocanthus spiniferus*), lice that attack the coconut leaves (*Aleurodicus destructor* Mask), Aphids on sugar cane plants (*Oregma lanigera* Zehntn), scale lice that attack coffee plants and crops cloves (*Coccus viridis*) and dompolan lice (*Pseudococcus citri* Risso), Brown planthopper (*Nilaparvata lugens*), Green planthopper (*Nephotettix virescens*) which causes tungro disease in rice plants (Angraini, et al. [2,3,6]). (Rahayu, et al. [7-11]).

References

- Aji TM, Hartono S, Sulandari S (2015) Pengelolaan kutu kebul (*Bemisia tabaci* Gen.) dengan sistem barrier pada tanaman tembakau. Jurnal Perlindungan Tanaman Indonesia 15(1): 6-11.
- Angraini K (2018) Pengaruh Populasi Kutu Daun pada Tanaman Cabai Besar (*Capsicum annum L.*) terhadap Hasil Panen. Jurnal Agroekoteknologi Tropika 7(1): 113-121.
- Maharani Y, Hidayat P, Rauf A, Maryana, N Kutudaun (*Hemiptera: Aphididae*) pada gulma di sekitar lahan pertanian di Jawa Barat beserta kunci identifikasinya. Jurnal Entomologi Indonesia 15(2): 74.
- Marwoto, Inayati A, Kutu Kebul (2015) Hama Kedelai yang Pengendaliannya Kurang Mendapat Perhatian. Iptek Tanaman Pangan 6(1): 87-98.
- Narendra AAGA, Phabiola TA, Tuliadhi KA (2017) Hubungan Antara Populasi Kutu Kebul (*Bemisia tabaci*) (Gennadius) (*Hemiptera: Aleyrodidae*) dengan Insiden Penyakit Kuning pada Tanaman Tomat (*Solanum lycopersicum Mill.*) di Dusun Marga Tengah, Desa Kerta, Kecamatan Payangan, Bali. E-Jurnal Agroekoteknologi Tropika 6(3): 339-334.
- Sari SP, Suliansyah I, Nelly N, Hamid H (2020) Identifikasi hama kutudaun (*Hemiptera: Aphididae*) pada tanaman jagung hibrida (*Zea mays L.*) Di Kabupaten Solok Sumatera Barat. Jurnal Sains Agro 5(2).
- Rahayu GA, Buchori D, Hindayana D, Rizali A (2017) Keanekaragaman dan peran fungsional serangga Ordo Coleoptera di area reklamasi pascatambang batubara di Berau, Kalimantan Timur. Jurnal Entomologi Indonesia 14(2): 97-106.
- Subagyo V, Hidayat P, Rauf A, Sartiami D (2015) Trips (*Thysanoptera: Thripidae*) yang berasosiasi dengan tanaman hortikultura di Jawa Barat dan kunci indentifikasi jenis. Jurnal Entomologi Indonesia 12(2): 59-72.
- Riyanto, Keanekaragaman Dan (2022) Kelimpahan Serangga Ordo Coleoptera Di Tepian Sungai Musi Kota Palembang Sebagai Sumbangan Materi Pada Mata Kuliah Entomologi Di Pendidikan Biologi FKIP Universitas Sriwijaya. Jurnal Pembeajaran Biologi 3(1): 88-100.
- Sudewi S, Ala A, Baharuddin, B BDR MF (2020) Keragaman Organisme Pengganggu Tanaman (OPT) pada Tanaman Padi Varietas Unggul Baru (VUB) dan Varietas Lokal pada Percobaan Semi Lapangan. Agrikultura 31(1): 15.
- Arsi, Rizal Andi Syabana, Supyani Dwiwiyati Nurul Septariani, Ryan Budi Setiawan, Tita Widjayanti, et al. (2022) Virologi Tumbuhan. Medan: Yayasan Kita Menulis.

ISSN: 2574-1241

DOI: 10.26717/BJSTR.2024.56.008788

Uqbah Iqbal. Biomed J Sci & Tech Res



This work is licensed under Creative Commons Attribution 4.0 License

Submission Link: <https://biomedres.us/submit-manuscript.php>



Assets of Publishing with us

- Global archiving of articles
- Immediate, unrestricted online access
- Rigorous Peer Review Process
- Authors Retain Copyrights
- Unique DOI for all articles

<https://biomedres.us/>