



INVESTIGATIONS ON THE NATURE AND
PROPERTIES OF SOME PLANT VIRUSES

THIS IS SUBMITTED FOR THE DEGREE OF
DOCTOR OF SCIENCE

IN THE UNIVERSITY OF ADELAIDE

BY

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PREFACE.

Regulation 2 "Of the Degree of Doctor of Science" requires:

(1) that "a candidate shall furnish satisfactory evidence that he has made an original contribution of distinguished merit adding to the knowledge or understanding of any subject with which the Faculty is directly concerned", and

(2) that "every candidate in submitting his published work and unpublished original work shall state generally in a preface and specifically in notes the main sources from which his information is derived and the extent to which he has availed himself of the work of others. He may also signify in general terms the portions of his work which he claims as original".

LIST OF PUBLICATIONS SUBMITTED

1. "Further Studies on Quantitative Methods with Two Plant Viruses." by Geoffrey Samuel, R.J. Best and J.G. Bald.
Ann. Appl. Biol. 1935, 22, pp. 508-524
 2. "The Effect of Environment of the Production of Primary Lesions by Plant Viruses." by Rupert J. Best.
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 3. "The Reaction of the Viruses of Tomato Spotted Wilt and Tobacco Mosaic to the pH value of Media containing Them." by Rupert J. Best and G. Samuel.
Ann. Appl. Biol. 1936, 23, pp. 509-537.
 4. "The Effect of Various Chemical Treatments on the Activity of the Viruses of Tomato Spotted Wilt and Tobacco Mosaic." by Rupert J. Best and G. Samuel.
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 5. "Precipitation of the Tobacco Mosaic Virus Complex at its Iso-electric Point." by Rupert J. Best.
Aust. Jour. Exptal. Biol. 1936, 14, pp 1-13.
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6. "Studies on a Fluorescent Substance Present in Plants. 1. Production of the Substance as a Result of Virus Infection and Some Applications of the Phenomenon." by Rupert J. Best.
Aust. Jour. Exptal. Biol. 1936, 14, pp. 199-213.
7. "The Effect of Light and Temperature on the Development of Primary Lesions of the Viruses of Tomato Spotted Wilt and Tobacco Mosaic." by Rupert J. Best.
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8. "The Relationship Between the Activity of Tobacco Mosaic Virus Suspensions and Hydron Concentration over the pH Range 5 to 10." by Rupert J. Best.
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9. "Investigations on Plant Viruses." by Rupert J. Best. Report of the Waite Agric. Res. Inst. 1933-36. pp. 84-90.
10. "Visible Mesomorphic Fibres of Tobacco Mosaic Virus in Juice from diseased Plants" by Rupert J. Best.
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11. "The Quantitative Estimation of Relative Concentrations of the Viruses of Ordinary and Yellow Tobacco Mosaic and of Tomato Spotted Wilt by the Primary Lesion Method." by Rupert J. Best.
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12. "On the Presence of an Oxidase in the Juice expressed from Tomato Plants Infected with the Virus of Tomato Spotted Wilt." by Rupert J. Best.
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13. "Artificially Prepared Visible Paracrystalline Fibres of Tobacco Mosaic Virus Nucleoprotein." by Rupert J. Best.
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14. "The Chemistry of Some Plant Viruses." by Rupert J. Best.
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15. "The Preservative Effect of Some Reducing Systems on the Virus of Tomato Spotted Wilt." by Rupert J. Best.
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16. "Virus Activity as a Property of Some Protein Molecules." by Rupert J. Best.
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17. "Plant Viruses. The Influence of Recent Knowledge on Methods for their Control." by Rupert J. Best.
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18. "Some Effects of Salicylate on Plant Viruses." by Rupert J. Best.
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19. "The Action of Electrolytes on Solutions of Tobacco Mosaic Virus Nucleoprotein (Marmor tabaci var. vulgare Holmes)." by Rupert J. Best.
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20. "Methods for the Preparation of Pure Tobacco Mosaic Virus Nucleoprotein (*Nannor tabaci* var. *vulgare* Holmes)." by Rupert J. Best.
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21. "The Inactivating Effect of Salicylate on Suspensions of Some Animal Viruses (Buryea, Infectious Myxoma, Shope Fibroma, Vaccinia, Poliomyelitis) by Barbara Cooke and Rupert J. Best.
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25. "The Effects of Infection of Tobacco Plants (*Nicotiana glauca*) with Tobacco Mosaic Virus on some of the properties of the Protein present in the leaves." by J.W.H. Lugg and R.J. Best.
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26. "Thermal Inactivation of Tomato Spotted Wilt Virus. Part I." by Rupert J. Best.
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27. "Inactivation of Tomato Spotted Wilt Virus by Salicylate." by Rupert J. Best.
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28. "Further Studies on the Physical States assumed by Tobacco Mosaic Virus in vitro." by Rupert J. Best.
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29. "The Constancy of Chemical Composition and Infectivity per Unit Weight of Tobacco Mosaic Virus Protein Prepared over a Period of Years." by Rupert J. Best.
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30. "Longevity of Tobacco Mosaic Virus, Part I: In vitro Life of the Pure Virus in Buffer Solution at pH 4." by Rupert J. Best.
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