

The Work and Legacy of Sir Rowland Biffen



R.A. Biffen

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- *Agricultural Science and the Emergence of a Mendelian System in Britain 1880-1930*
- “Owning and Disowning Invention: Intellectual Property, Authority and Identity in British Science and Technology, 1880-1920”

- www.ipbio.org
- www.owninganddisowninginvention.org/
- Christine MacLeod and Gregory Radick (eds.), *Owning and Disowning Invention: Intellectual Property and Identity in the Technosciences in Britain, 1870-1930*. Oxford: Oxford University Press.
- Graham Dutfield and Stathis Arapostathis (eds.), *Knowledge Management and Intellectual Property: Concepts, Actors and Practices from Past to Present*. Cheltenham, Edward Elgar.

Outline of the paper today

- Rowland Biffen's life and work.
- A complex legacy.
- The long-run history of the State and Agriculture.

- 1874 – Born in Cheltenham.
- 1883-1893 – Cheltenham Grammar School
- 1883 – Enters Emmanuel College as an Exhibitor
- 1884 – Becomes a Scholar of his College
- 1896 – 1st class in both parts of the Natural Sciences Tripos
- 1896 – Frank Smart Studentship in Botany at Gonville & Caius
- 1897-1898 – Expedition to Brazil, Mexico and the West Indies to study of sources of rubber
- 1898 – Demonstrator in Botany
- 1899 – Lecturer in Botany at the new Department of Agriculture
- 1905 – Launch of the Journal of Agricultural Science
- 1908 – Chair in Agricultural Botany & Professorial Fellowship at St Catharine's and to Emmanuel.
- 1910 – Little Joss, his first strain of wheat released onto market
- 1912 – Foundation of Plant Breeding Institute.
- 1914 – Election to the Fellowship of the Royal Society
- 1916 – Yeoman released
- 1919 – Foundation of NIAB
- 1920 – Awarded RS Darwin Medal
- 1924 – Yeoman II released
- 1925 – Knighthood
- 1935 – the Honorary Doctorate of Science at Reading University
- 1949 – Died at home 138 Huntingdon Rd. Cambridge.

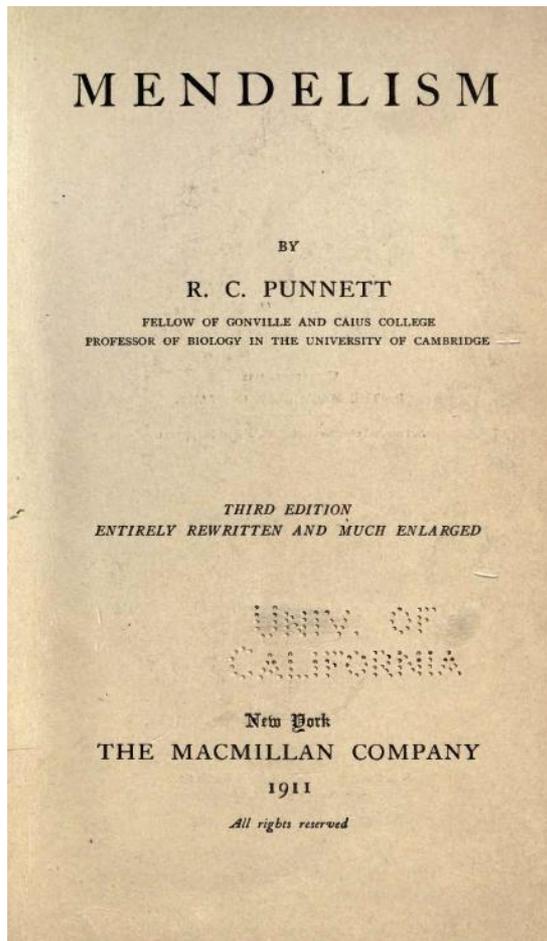


- 1905. “Mendel's laws of inheritance and wheat breeding”. *Journal of Agricultural Science*. (1) 4-48.
- 1912. “Studies in the inheritance of disease resistance, II”. *Journal of Agricultural Science*. (4) 421-429.

“Mendel's laws of inheritance apply to morphological, histological, and constitutional characters, and one can probably recognize as many pairs of characters as there are minute differences between the varieties experimented with. The various shades of red in the grain, the various degrees of laxness of the ears, etc., are each represented by character units. ...

“No indisputable case of "reversion" has occurred. Where hybrid varieties of known parentage are crossed with other varieties no indications of the parentage of these hybrid varieties, excepting the characters they themselves show, have been met with. ...

- Wider applicability of Mendel's laws
- Gametic purity; absolute segregation



AN ILLUSTRATION OF INHERITED CHARACTERISTICS IN SHEEP.

The black-faced Norfolk ram (at left) when crossed with the white-faced ewe of the horned Dorset breed (in middle) results in animals with speckled faces, of which the males are horned and the ewes hornless. Breeding from the latter leads to a type of ram (at right) combining the white face of the Dorset with the horns of the Norfolk.

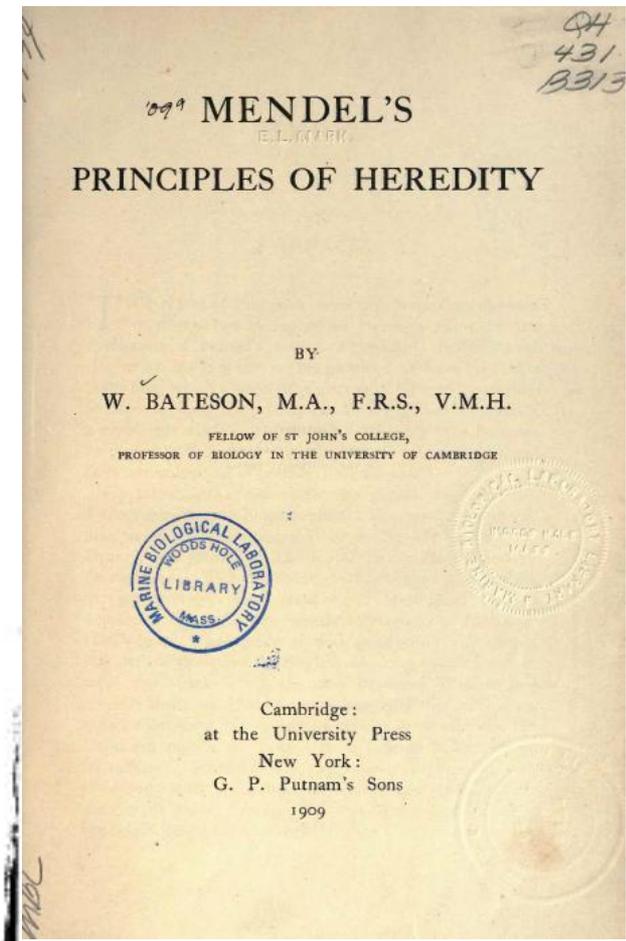


At left "Fife" Wheat—strong, but scanty yield. At right, wheat developed by crossing "Fife" Wheat of large average capacity.



The two pure strains of White Sweet Peas (at right and left) crossed, on crossing, to the Purple (shown in the middle).

(See page 29 to 30.)



... Any desired combination of the characters represented in any two varieties can be obtained "fixed" in the first or at the most the second generation from the hybrids."

- Little Joss (1910)
- Yeoman (1916)

- BSCA (1914)
- NIAB (1919)

- Yeoman II (1924)



FIG. 29.—A well-grown plant of Yeoman II.



South Side : from the Huntingdon Road.



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