

NOTES ON SIX LECTURES

DELIVERED BY ROBERT WARINGTON, F. R. S., ON THE
AGRICULTURAL INVESTIGATIONS AT ROTHAMSTED,
ENGLAND.

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In the early years of the present century Sir John Bennet Lawes, associated with Dr. Gilbert, began those experiments, the results of which have been so potent in revolutionizing agriculture throughout the civilized world. Thoroughly practical and at the same time thoroughly scientific, these investigations and the deductions made therefrom have served not only to materially improve the system of agriculture by increased production at decreased cost, but also to elevate farming from an art overgrown with traditions, handed down from father to son through successive generations, to the ranks of science. Agriculture has now taken its place in our universities side by side with Classics, Mathematics and Natural Sciences. It fills that place worthily; and that this is so is largely due to the skilful and indefatigable labours of those English scientists, Sir John Lawes and Dr. Gilbert.

During the summer of 1888, the writer had great pleasure in visiting Sir John Lawes's estate at Harpenden in Hertfordshire, Dr. Gilbert very kindly acting as escort and explaining the many experiments then in progress. The grand old manor of Rothamsted, which has been in the Lawes family since 1623, was built in the fifteenth century, or as Mr. Warington remarks, before Columbus discovered America. Assisted by a young chemist of the name of Dobson, Sir (then Mr.) John Lawes began experimenting in 1837 on the effect of soluble phosphate. Although these trials were only carried on in pots, the results were so gratifying that Mr. Lawes took out a patent for manufacturing superphosphate from mineral phosphate and sulphuric acid. This marks the beginning of the manufacture of this fertilizer, an industry now grown to such gigantic proportions and of such great benefit to agriculture. In 1843 he was joined by Dr. Gilbert, a former pupil of Liebig, as chemist. For over half a century these two (Sir John himself being