By the age of xx, Ronald Aylmer Fisher was already well-respected in the field of mathematics having won the Neeld Medal in Mathematics at the age of 16 while attending Harrow School. But Fisher wanted to make his mark by applying mathematics in a useful way. In 1919, and still in his twenties, he took a post at the Rothamsted Research facility where they had collected 90 years worth of data on “artificial manure” (fertilizer). The data was everything the researchers could collect on fertilizer mixtures, detailed weather recordings and crop yield across multiple plots of land. Fisher’s task was to make sense of this data. He did have the help of computers at that time, because that is what they labeled the people hired to sit and “compute” on the data all day long. After years of pouring through a mountain of data he concluded that the data ,

mathematics, but he did not enjoy the abstractness of mathematics and opted to pursue an applied approach. in

Fisher

“Fisher came to Rothamsted in 1919 to analyze the accumulated results of 75 years of agricultural experiments. He soon pointed out that better results would have been obtained if the experiments had be designed differently. The fundamental ideas of replicated, randomization, blocking and balance have influenced design far outside agriculture, notably in clinical trials and in industrial R&D (where they now have their place in the Taguchi revolution). If only we could measure how much money has been saved and how many false trails avoided by using good design. I have no doubt that experimental design is Fisher’s greatest legacy to applied statistics.”

- J.C. Gower, Rothamsted Experimental Station, UK

<http://math.fullerton.edu/sbehseta/Fisher.PDF> (“Fisher: A retrospective” by George Barnard)

“Rothamsted is the oldest agricultural research institution in Great Britain”

<http://www2.fiu.edu/~blissl/GuinessGossetFisher.pdf>

Fisher’s paper “The influence of Rainfall on the yield of wheat at Rothamsted” in 1924 begins with this gem:

“At the present time very little can be claimed to be known as to the effects of weather upon farm crops. The obscurity of the subject, in spite of its immense importance to a great national industry, may be ascribed partly to the inherent complexity of the problem which it presents, and more especially to the lack of quantitative data obtained under experimental or under industrial conditions, by the study of which accurate knowledge alone can be acquired.”

“The most extensive work on this class undertaken in the laboratory was the calculation of the average effects of meteorological factors such as rainfall and sunshine at all periods of the year, on the yield of crops grown on the classical fields. This was first done for rainfall and wheat, and later the method was applied to sunshine and wheat, to rainfall and barley and more recently to rainfall and mangolds. A later series of papers is concerned with the experimental evaluation of the constants of formulae, expressing the increase in yield produced by successive additions of one or more fertilisers.”