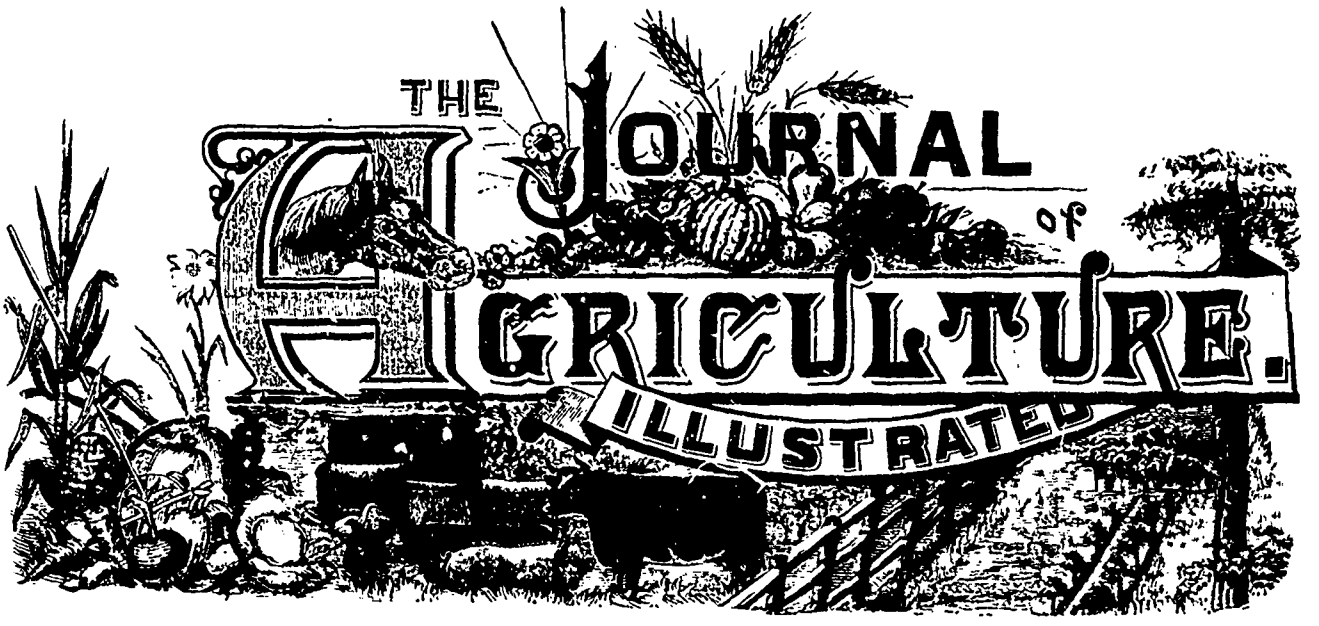


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## CLOVER SICKNESS.

SIR JOHN BENNET LAWES, BART, LL.D. F.R.S.

A SHORT time ago Professor Scott delivered a lecture before the London Farmers' Club upon the "Recent Advances in the Science and Practice of Agriculture."

Amongst other subjects he referred to potato disease and clover sickness, and in reference to the latter mentioned that at Rothamsted upon a garden soil, without further manuring I had grown red clover for 28 years in succession.

The discussion which followed turned a good deal upon clover sickness; and one of the members who had recently returned from the States—after giving his experience with regard to the disease following a too frequent repetition of the crop—mentioned that at a meeting of one of the Granges in America he was called upon to speak and "Amongst other things," he said, "I mentioned clover sick land, and directly after I sat down, a lady got up and began to ridicule the farmers of England, and the scientific men of England, because they could not, in their scientific researches, find out some remedy for this great evil."

To the best of my belief nowhere but at Rothamsted has any attempt been made, up to the present time, to find out why red clover would not grow continuously upon the same land.

In the year 1848, having some acres of clover in one of our fields, we decided to apply a variety of manures to the crop and to restore it if it died away. I have no intention of giving a history of all our failures, but will merely mention the fact that after twenty-two years, feeling somewhat weary of wasting money on several acres of land without being able to arrive at any definite results as regarded the object of our investigations, I left Dr. Gilbert to go on with the experiment on a more confined area, thinking that a few square yards would prove equally as well as some acres of land whether the crop of clover could be grown continuously or not. I may say, however, that the last ten years have given no more successful results than the twenty-two years that preceded them.

Upon the remainder of the land—which had been under clover experiment for twenty-two years—I have now for some years been trying to grow other plants of the same order; and in addition to the red clover, I have five other clovers, and nine other agricultural crops of the leguminous order.

I may mention here that, as far as chemical composition is concerned, the Leguminosæ bear a very close relation to each other, and the same is the case with the graminaceous crops; while there is a marked difference between beans and wheat, or peas and barley, the distinction between the various plants of the same order—whether we take the whole plant or the seed alone—is very slight; wheat barley, corn and rice closely resemble each other. My object therefore in carrying out this experiment was to ascertain whether the land was only clover-sick, or whether it would refuse to grow any other crop of the same order.

With this view I sowed three red clovers, three white clovers, two yellow trefoils, the scarlet trifolium, the purple lucerne, the red sainfoin, the pink clover, the vigorous Bokhara clover, and the purple vetch; every one of these had the option of feeding upon thirty-four different combinations