

## P R E F A C E .

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It is certainly remarkable that agriculture, so capable of advancement, should have been pursued in an old beaten track without material improvement during many centuries. We cannot discover that the practice of agriculture in Europe, one hundred years since, was better than in Italy and in some other parts of the Roman Empire two thousand years ago. "There is sufficient authority for maintaining that an enlightened system of rural economy had become prevalent during the Augustine age, and perhaps long before." To go further back we find that even the ancient Egyptians knew the benefits of a rotation of crops and were also skillful in adapting these to the soil and to the seasons. It has been estimated that after they were conquered by the Roman armies they supplied the imperial city with 20,000,000 bushels of grain per annum, during many years.

It may be useful for us to inquire why it was that civilized nations one hundred years ago should have advanced agriculture little beyond the systems pursued by the ancient Romans and Egyptians.

In prosecuting this investigation we find that science was scarcely known among the ancients, and they had probably advanced agriculture as far as practicable without scientific aid.

About a century ago the subject had begun to be *systematically* investigated, and science began to be applied to agriculture and other branches of industry. Since that period we find a great advancement in agriculture. The improvement, though slow at first, has progressed in an increasing ratio, so that English writers inform us that the agricultural products of their country have doubled within the past eighty years without a material increase in the area of arable lands. The same is true throughout Western Europe. We may differ in opinion as to the causes of this great improvement in human affairs, but it can scarcely be doubted that the diffusion of scientific knowledge and its application to industrial pursuits, has been the most potent cause of all.