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ERECTION OF A BONE MILL.

On ordinary lands no crops can be got out of the soil without putting in phosphates; the best form of phosphate is found to be Bone Dust.

We have the satisfaction of stating that arrangements have been made for the immediate erection of a steam Bone Mill on Mr. Stanford's premises at the Three Mile House, near Halifax, and that Bone Dust will be for sale in good time for sowing during the coming spring. Parties having crude bones to dispose of will now have a market; and our farmers will be furnished with the means of enriching their lands. It is estimated that bones to the value of \$14,500 have hitherto been annually wasted in the city.

PRINCIPLES OF VEGETABLE ANATOMY AND PHYSIOLOGY AS APPLIED TO AGRICULTURE.

I. THE VEGETABLE CELL.

Chemistry has hitherto been the guiding star of scientific agriculture. The important theoretical relations of that

science to cultural art, the practical benefits realized from its applications, in the daily operations of the farm, and the assiduity with which its just claims have been urged in agricultural literature, have served to secure for it, among the sciences, the almost undivided attention of scientific farmers. The flood of light which chemistry has thrown upon agriculture has, indeed, obscured for the time the feebler rays of other branches of science, which equally indicate paths of future progress. In this art, which transcends all others in national importance, it is desirable to secure for its advancement the co-operation of all available departments of science; many of these are calculated to bring to its aid valuable contributions.

We are very apt to err in our calculations as to the real value of special branches of science in their economical applications. Discoveries already achieved, we readily appreciate; but where our hopes lie in the uncertain problems of natural science, the prevailing tendency is to turn aside before definite results are reached. Yet, even in those paths of pure science, which seem to hold out no hope of practical application to the affairs of life, how often do we find progressive discovery opening up hidden sources of

wealth and new fields for the exercise of industry. In fact economical science (technology) cannot be pursued apart from science, properly so called; and it is of the greatest possible importance that we should estimate correctly the true position of science in its industrial relations. Science enables us to generalize our isolated observations and experience in cultural art, and to embody these into a system; where we have neither observation nor experience, it forms a sure guide. In its special applications to the culture of the soil, and the improvement of crops, it has proved fertile in its results; but our most important discoveries and inventions have often been evolved from general investigations whose original aim and purpose were in no wise connected with them. This is especially true of the science of botany. We cannot foretell the full amount of advantage to be obtained by its advancement, because these arise out of an increase of actual knowledge, not from the actual application of known laws; but results, already realized, often afford valuable hints as to the most profitable direction of future research.

The importance of Botany in its agricultural relations has hitherto been but feebly urged. In farming literature it