

the formation of the seeds. A great portion of these seeds, with the leaves, are shaken off and lost in the process of making into hay ; so that, by delaying too long, it frequently happens that little is left after saving beyond a bundle of dried and indigestible stalks. But we doubt not the time is at hand when our farmers will become more vigilant and more alive to their true interests ; and when, by a little more management and foresight, and instructed by the improved practice of their industrious and observant neighbours, they will be enabled to produce in the market hay of a vastly improved quality. By degrees they will be induced to employ our modern appliances for the saving and facilitating of labour ; but it would be wise to improve on their present practice, making the most of their available resources : and the production of an article of better quality and in greater abundance, and the profits thencefrom arising, will speedily enable them to provide themselves one after the other, with labour-saving machines of the most improved modern construction.

I have the honor to be,

Mr. President and Gentlemen,

Your Obedient Servant,

OBITER DICTUM.

## ATMOSPHERIC INFLUENCES UPON SOIL AND VEGETATION.

*Showing the nature of the atmospheric influences upon soil and vegetation, as affecting the amount and value of the produce including the modification of these influences arising from heat and cold, dryness and moisture.*

With regard to the Cerealia, they will ripen although the temperature should descend to  $28^{\circ}$  Fah. provided it range to  $52^{\circ}$  or  $53^{\circ}$  while they are on the ground. Wheat extends to about the  $60^{\circ}$  north latitude, and as the climate in the west of Europe, we have seen, is milder, it will ripen well, and be productive, if the temperature while it is on the ground, be  $55^{\circ}$ , but, if only  $46^{\circ}$ , or under, none of the Cerealia will be perfected. Barley and Oats are found at latitude  $69^{\circ}$  and higher in Lapland, and ripen with a mean temperature of  $47^{\circ}$  to  $48^{\circ}$ . In latitude  $46^{\circ}$  the Cerealia will come to tolerable perfection at an elevation of 3500 feet, and twice that height on the Caucasus, and thrice that height on the Andes. The Maize will grow in any latitude from  $62^{\circ}$  to  $47^{\circ}$  in the Old World and  $45^{\circ}$  in the New, provided the summer is not under  $66^{\circ}$  to  $68^{\circ}$ . The Vine prefers the range from latitude  $36^{\circ}$  to  $48^{\circ}$ , but will thrive in the Old World, where the mean temperature is from  $62^{\circ}$  to  $47^{\circ}$  or  $48^{\circ}$ , provided the winter is not below  $30^{\circ}$ , nor summer under  $66^{\circ}$  or  $68^{\circ}$ .