

stantly wet, while the other is in its natural state and is dry. During the months of June, July, and August, the wet bulb thermometer indicates a temperature from 3° to 4° colder than the dry bulb thermometer, and this is just the difference of temperature between wet and dry land. Thorough drain and thus dry the wet land, and once the land, from having a low temperature similar to the wet bulb thermometer, assumes a warmer temperature similar to that of the dry bulb thermometer; and the natural consequence is, that as it only required to gain 1° or 2° of additional temperature to bring it within the Wheat region; as additional dryness being attended with an increased temperature enables it to bring a crop of Wheat to perfection, which formerly it was unable to do. This then is the boon held out to proprietors and tenants to thorough drain their lands, and a few striking examples might be cited where good crops of Wheat have been raised on land naturally beyond the Wheat region, but which, from thorough draining and the nature of the soil, has the soil temperature so raised as to enable it to ripen Wheat perfectly. From the table above given it will be seen that Banchorry is naturally beyond the Wheat region, and it is a fact that on the heavy damp clayey soils where Wheat cannot be raised as a regular crop. When mentioning the above facts, however, some time ago to Alexander Thomson, Esq., of Banchorry, he mentioned that having thorough drained a field of black peaty soil and broken it up, he found that it produced an excellent crop of wheat; and theory shows that such was likely to be the case, inasmuch as the dark and porous and now dry peaty soil would absorb and retain a much larger amount of heat than the damp clays around, and thus diminish the degree of heat requisite to bring a crop to perfection. Several exactly similar instances in different parts of the country are known to me, one indeed in Wiltshire, where on a similar drained and dark moorland almost peaty soil a crop of Wheat ripened at a height of 900 feet above the level of the sea, though in the district Wheat cannot be grown profitably even 400 feet lower.

From all this it is apparent that Wheat culture may be much and profitably extended in Scotland, but that the first step to take towards this consummation is to thorough drain the land. So long, however, as great tracts of undrained land exist, it is next to hopeless to expect even the drained farm in the immediate vicinity will raise as fine crops of Wheat as it otherwise

would. The evaporation from the great extent of undrained land will lower the temperature of the air all around, and counteract to a considerable extent the higher temperature on the drained farm. In proportion however as the land around is drained, the general climate will so improve that Wheat crops will be enabled to be raised regularly; and the difference between the value of land capable of raising Wheat, and that only capable of raising Oats or Barley, is so great that it is worth every one's while to thorough drain his land, and thus bring it within the limits of the Wheat region. That Wheat was formerly raised in many localities in Scotland where it will not now ripen is well known, as the charters of several of the old families record the quantities of Wheat which certain lands were to pay over annually to monasteries and religious houses; whereas at the present day not a grain of Wheat is raised on the same properties.

It is no degeneration of climate which has led to this result, for the meteorological observations of the last century have proved beyond a doubt that the general climate of Britain is improving. But the result has been produced by the woods which gave shelter to the country having been cut down or otherwise destroyed, and to the land having been allowed to get into a marshy undrained condition; and as all the lands of Scotland a few hundred feet above the level of the sea are just on the borders of the Wheat region, the fall of mean temperature to the extent of either 1° or 2° Fahr. which would follow as a natural result of the land getting again damp, would throw it at once beyond the Wheat region.

Even the lands of Orkney, though naturally beyond the Wheat region, lie so closely upon it that the lowlying and more sheltered localities might, by proper drainage and cultivation, yield a considerable amount of Wheat. It is known that within the last 10 years Wheat culture has extended there, and this is evidently due to the improvement in the temperature of the soil produced by drainage alone, as trees cannot be reared for shelter. Here however the extreme limit of the possible Wheat region is so close on the sea level, that an elevation of 100 to 150 feet above the sea level raises it beyond the Wheat region, and destroys all prospect of a Wheat crop.

AMERICAN APPLES.

The following remarks of the *Gardeners' Chronicle*, (English) will be read with in-