

given by Coleman; although a tropical and sub-tropical plant, it produces four times as much where the summer temperature is 67° and 68° as at the south, in a summer temperature of 80° .) Where the temperatures were 63° and 66° the wine was scarcely drinkable, but was unusually good with the summers at 67° and 68° . The lowest temperature given for the vine-growing districts of the United States, is that at Ann Arbor, Michigan; for spring, $45^{\circ} 5'$; summer, $66^{\circ} 3'$; autumn, $48^{\circ} 4'$, and winter, $25^{\circ} 3'$. The next is Cleveland in Ohio; summer, 67° , and winter, $30^{\circ} 8'$; but the cold of winter has very little effect upon the vine. The locality having the least rain is California, one-tenth of an inch in summer, and but nine inches and a half during the year. The place having the most is at Camden, South Carolina, 20.8 inches in summer, and 54 during the year. The quantity of rain and the degree of humidity in the air most favourable for the vine in the interior climates, are questions of difficult solution, and certainly, impossible with our present limited information on the subject. The European grapes are extremely sensitive to great extremes from drought, to excess of rain, but native varieties may be cultivated adapted to our peculiarities of climate. The remarkable uniformity of rain and humidity throughout most of the Valley of the St. Lawrence, are favourable for the vine. Probably the south western portions of Upper Canada, and the districts south and west of Lake Erie, may be found to combine, in the highest degree, those conditions of climate most propitious to the vine of any region east of the rocky mountains. Experience, however, would be our guide here.

Secondly,—The extent over which the wild grape may be found growing in Canada may be some indication of the areas over which the grape may be cultivated, and especially native varieties. Sir John Richardson found the frost grape (*vitis cordifolia*) as far north as the south end of lake Winnipeg on the 50th parallel. Sir George Simpson says, "Even the vine runs abundant on the Kamistiouia, a tributary of Lake Superior from the north, at 49° and 50° north latitude." Native vines are found throughout the whole of the Canadas within the limits just named; they are generally co-extensive with the great forests of deciduous or leaf-falling trees, and as a general rule wherever the maple grows. They are hardy, very acid, prolific bearers, and of good size. Kaemtz assigns latitude $47^{\circ} 36'$ on the Atlantic Coast of France, 49° in the interior, and $50^{\circ} 20'$ on the Rhine at Coblenz as the northern limits of the vine in Europe. In Germany it does not pass 51° , and extends to about the same parallel in Eastern Europe. Our hardy native vines may be made use of in the culture of wine-producing grapes. Their natural luxuriant growth over such extensive areas, is a very significant fact, and may be some indication of the limits within

which even European varieties may be successfully cultivated. At all events when a plan found like the vine in Canada spontaneously springing from the soil, we have the best proof that those regions where it has established its are by nature adapted to it. What then these same vines become under the foster hand of the skillful gardener. That kind culture which has deduced from the sour apple the beautiful and delicious specimen that fruit now before us, and done so much improving every variety of our fruit, cannot be lost upon the wild grape, and may bring forth berries equally luscious with the European varieties and much better adapted to climate.

It may here be incidentally mentioned as a very good guide as to the climates favourable to the grape, that it has been found by experience that wherever Indian corn matures fruit of the grape will also ripen. John Faigineaux and Moreau, the best authorities place the vine, the last two as high, and John two degrees higher than Indian corn. The northern limits of this cereal on this continent will be found as high as the Saguenay in Lower Canada, a part at least of New Brunswick through most of the Canadas, and as high as latitude 54° on the Saskatchewan. We may considerably curtail these limits and still have an immense field for vine culture. It is a question of the very first importance that attention should be given to the improvement of the native vines, from which we may hope to get varieties better adapted to our climate, and which will be surer and more prolific bearers.

Thirdly,—The results of actual experience in grape-growing in Canada, have been encouraging. Upon three small and young vines (upon wood of the second year's growth) within sight of where I am writing this, I have counted more than one thousand bunches of at least half a pound each. These are of course grown entirely in the open air. They are the fruit of the black Hamburg, it is not unusual to have clusters of two and three pounds weight, even much larger when grown under glass. But I need not specify particular instances; best proofs of success are exhibited at our Agricultural Shows. The conditions of our climate, temperatures and quantities of rain, the luxuriant growth and prolificness of the wild grape throughout the country, and the success attending the feeble and isolated efforts in the culture of the vine, give us abundant assurance that the grape may be grown with profit over extensive areas in Canada.

Apple Orchards, Varieties, &c.

TO THE EDITOR OF THE AGRICULTURIST. Notwithstanding all that has been said and ten upon the subject of fruit culture in the various periodicals of the day, I find as the res.