

## ATTEMPTS AT ACCLIMATION.



REQUENTLY in the pages of the CANADIAN HORTICULTURIST, there have appeared articles advocating Darwin's theory of the acclimation of plants and trees, by growing them for several generations in climates to which they were not adapted. Some claim that the apple, or peach, can be made more hardy by growing it from seed, for countless generations farther and farther north; and many attempts to carry out this theory into some practical issue, are being made. Prof. Bastin, in his "Botany," goes so far as to state that all plants and animals come of one common stock, viz., from "a mass of undifferentiated protoplasm," whatever that may signify. But it appears to be an unproven position, although very plausible in theory.

The Country Gentleman gives a synopsis of an address by Josiah Hoopes, before the Nurserymen's Convention, on this subject, which may be of interest to our readers. He says, that he instituted a series of tests with different varieties of the peach, the trees having been procured from widely different latitudes, ranging from the Gulf States to the extreme North. They were planted side by side, the culture given them was precisely alike, and all controlling influences were similar. But in after years there was not the least perceptible difference in hardiness, or in the character or ripening of the crops.

The many attempts which have been made to render half tender plants, trees and fruits hardier, have nearly all proved partial or entire failures. Illustrations occur in the case of common vegetables. The Indian corn plant is not changed in hardiness by millions of plantings or endlessly diverse treatment. The first white frost in autumn cuts it. A slight apparent difference, however, should not be overlooked. The small northern varieties complete their growth sooner than the large southern sorts, which continue late in a more succulent condition, and show some difference in the amount of harm which a frost does to them; but the character of the plant is not changed, and there will be no difference whatever when both are equally mature. The potato and the tomato are always killed by the first white autumnal frost, and no horticulturist has been skillful enough to raise a frost-proof potato.

The fact that trees and shrubs which ripen their growing wood are hardier, and will endure the cold of succeeding winters better, than those of late succulent growth, may be taken advantage of by preventing late growth. A half-tender grape vine, planted on a well-drained and rather poor soil, will endure the winter better than the same vine growing late in wet and very rich ground. But no change whatever is effected in the character of the variety, for let the two vines change places, and they will change in growth.

The propagation of varieties from seed sometimes, however, causes a slight difference in inherent hardiness. Among apples, for example, the Fameuse and