

very hardy everywhere. It grows to a height of two feet.

Virginia Cowslip, *Mertensia Virginica*, is one of the best perennial plants in the garden. It is like the corydalis, disappearing soon after blooming. Such

plants should be kept staked to mark the place where they will appear the following season. This plant grows two feet high, producing beautiful sky-blue flowers that are always admired by every passer-by.

Leopard's Bane, *Doronicum excelsum*, grows to a height of two feet and produces yellow, sunflower-like blooms on long stems which are very good for cutting. It is a very free-blooming plant and makes a grand display in the border.

Shade Trees for Our Cities*

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THE question of shade trees for our cities and towns, is a many-sided one, which has engaged the most careful consideration from a very early period in our history. Shade trees, as well as properly kept shrubs and flower beds, exert a powerful reflex influence upon those who are habitually associated with them in their daily lives. From this point of view it is therefore not difficult to determine that the extent to which trees are cultivated, and the intelligence expended in properly caring for them, may be safely adopted as an index of the relative progressiveness, culture and civilization of a town.

In discussing the relation of shade trees to purposes of street ornamentation, there are three factors of leading importance which should be taken into consideration: Their productive value; their esthetic value; and their educational value. The popular notion that trees have a tendency to reduce the actual temperature of the surrounding air, has a slight basis of fact in a dense forest, but in the case of individual trees, their influence in this respect is so small as to be wholly unrecognizable; nor is it more conceivable that the thousands of trees which might be scattered throughout a large city, would exercise any more appreciable effect. Having thus eliminated what at first sight might reasonably be expected from the growth of trees, it is pertinent to ask in what respects they are protective? Trees constitute an active medium for the transfer of water from the soil to the atmosphere through their foliage, and the amount of water which may be translocated in this way, is very large during the period of active growth. There is therefore a constant tendency to maintain the atmosphere in a condition of desirable humidity, and though this effect is rapidly offset by the distributing influence of air currents, it is nevertheless sensible, and in this respect the presence of large masses of foliage is a desirable factor which tends to the amelioration of otherwise severe conditions.

Active foliage demands large supplies of carbon-dioxide gas which it draws from the surrounding air and rapidly converts into organic bodies,

these latter being subsequently utilized in building up the fabric of the plant body. In return, the plant yields up a corresponding volume of free oxygen, and the surrounding air is purified to that extent. In large cities, especially where there are extensive manufacturing interests as in Montreal, there is a tendency towards the local accumulation of the noxious products of combustion of which carbon-dioxide is the most important, and there can be no doubt that the presence of trees in large numbers exerts a most salutary effect by virtue of their absorption of this gas and the substitution of pure oxygen. It may reasonably be contended from these statements, that a city which is abundantly supplied with shade trees will, in general, be distinguished by the greater purity and more bracing quality of its atmosphere, and it would seem to me that the relations thus developed, are too often overlooked or even ignored in considering the part which trees play in urban life.

There is another respect in which

trees manifest their protective influence, as found in the extent to which they minimize the effects of excessive heat. Any one passing from a narrow and crowded business street devoid of trees, to a residential street provided with shade trees, becomes sensible of a gratifying difference in temperature. This difference is not altogether dependent upon the relative height and the crowded character of the buildings, though it is a large factor; but it is due, in the main, to the influence of the trees themselves. The trees not only give the pedestrian direct protection from the rays of the sun, but they so shield the pavements and buildings as to prevent the absorption and reflection of heat, affording to the buildings in particular, such a degree of protection as to give to the inhabitants a sense of refreshing comfort.

Of the esthetic and educational value of trees, much might be said, but it may be sufficient to point out that to bring up children habituated to association with those forms of vegetation which typify great beauty and grace



Shade Trees Such as These Increase the Value of the Residences

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