

it is well known that it feeds only upon plants belonging to the same natural order as the turnip. In early spring and summer time weeds belonging to this order are often abundant and form suitable pasturage, where the turnip flies congregato and increase to an amazing extent, so that when the young turnip crop appears they at once migrate to its more delicate leaf and blast the hopes of the farmer. Just before leaving Scotland this summer a remarkable instance occurred to me, illustrating what I have said. Two fields in the same district, and both of clayey soil, were cropped with the same kind of turnips of apparently the same age. One field was isolated by corn fields and potatoes, and I could not detect in it a single fly. The other field was also isolated, but was in a perfect swarm. The reason was explained when there was found in one corner of the field an extensive rubbish heap covered with wild mustard, which had been growing since the previous autumn, and thus had formed a winter's provision for the fly.

Another great evil resulting from the abundance of weeds is this, that their seeds become mixed with the grain, and thus we have a dirty sample. This deteriorates from the market value of the grain. At Toronto I saw a very ingenious machine designed for the purpose of cleaning dirty grain of this kind, and I must say it did its work well; but it would indicate a far more hopeful appreciation of the value of clean grain if we were to begin at the beginning, and not allow the weeds to ripen in our corn fields at all.

There is one branch of rural economy, so closely connected with agriculture, that it may without impropriety be noticed on an occasion of this kind. We know that the effect of colonization and civilization in all parts of the world has been to denude fertile land of its native forests. Throughout middle and southern Europe we only find here and there the remnants of the original arboreous vegetation. "Clearing" is in fact necessary to permit the industrial operations of man. But the clearance of forests is not an unmixed good. On the contrary, we find that a train of evils sometimes follows it, which all the exertions of man cannot repair. While there is a want of precise information as to the physical effects of the removal of forests, we have sufficient information to show that such operations should not be carried out indiscriminately, and trusted entirely to private interest, but should be regulated for the general good, and with a view to the permanent interests of a country. Recent researches have shown how injurious have been the neglect of needful precautions in the felling of timber in many parts of our Indian Empire, and in

reference to the American Continent, Humboldt tells us that "by felling trees which cover the tops and sides of mountains, men in every climate prepare at once two calamities for future generations—the want of fuel and the scarcity of water. Plants exhale fluid from their leaves, in the first place for their own benefit. But various important secondary effects follow from this process. One of these is maintaining a suitable portion of humidity in the air. Not only do they attract and condense the moisture suspended in the air and borne by the wind over the earth's surface, which, falling from their leaves, keeps the ground below moist and cold; but they can, by means of their roots, pump it up from a very considerable depth, and, raising it into the atmosphere, diffuse it over the face of the country. Trees, by the transpiration from their leaves, surround themselves with an atmosphere constantly cold and moist. They also shelter the soil from the direct action of the sun, and thus prevent evaporation of the water furnished by rains." Thus do the forests contribute to the copiousness of streams, and preserve during the hot season a certain amount of moisture in the atmosphere. But it is not on such grounds that I would argue the conservation of forests in Canada. Let us look to the position of other countries at the present time where timber is scarce, and contemplate the advantages which Canada enjoys at this moment in its glorious old woods, the source of half its riches. Let us reflect on the means that have gradually rendered other countries so poor in this respect, while we are so rich. And while we enjoy the riches, let us see that they are secured also for our successors; that in rendering Canada an agricultural country, we do not forget to provide for the permanent maintenance of those vast supplies of timber which are found so valuable in all the arts of life, and in time will be found necessary for the very existence of a people so ill provided with fossil fuel.

In various European states, and in Britain, great efforts are being made to improve the management of forests, and much good has been done. One curious result brought out by the Scottish Arboricultural Society is this, and it may stagger the Canadian farmer, that while forests have through neglect been ruinous to many proprietors in Britain, still, when properly cared for by yearly pruning and thinning, they not only repay all the labor bestowed upon them, but yield, on good soil, as profitable a return as wheat or green crops.

Now, I do not expect that we can secure for many years to come the same amount of labor for the rearing of natural or artificial forests as is now bestowed in many parts of Scotland and Eng-

land; but I do not see how this branch of industry should be neglected—how, for example, our Canadian forests, especially in the neighborhood of towns, should not be cared for, so as to secure a full and regular crop of good timber, instead of the trees being allowed to grow indiscriminately, forming a tangled wilderness, where the good trees, choked by useless undergrowth, scarcely afford a reward for the labor of felling. There is also to be found in Canada land not adapted for heavy corn crops, but admirably adapted for timber, which would undoubtedly yield a profitable return if planted with suitable trees.

These suggestions I offer as the first thoughts of a stranger on looking abroad upon the country. They may appear ill-adapted to the wants of the country at the present time. It may seem that I have formed an erroneous appreciation of Canada when I recommend the growing of timber, as well as the growing of corn. But both are necessary for the successful development and permanent success of a country like this. While in the midst of abundance we are apt to neglect provision for the future in regard to a crop like timber which requires half-a-life time for its development. But assuredly, if we do not anticipate and provide, the time will come when many districts of Canada, like all other civilized countries, will feel the want; year by year, as the agricultural resources of Canada are more fully developed, the natural supplies of timber will decrease. Need I further allude to the effective means of decorating our cities, which are so fully afforded by our native trees. In Kingston a custom prevails to some extent of lining the streets with trees, to overshadow the passer-by. In oriental countries it is a public duty. In Kingston I trust the taste will extend. But trees are not appreciated here as they are even in Britain. I know that if such natural avenues of gigantic cedars as you have not far from this city were found within the length and breadth of Scotland, they would be all grubbed up by McGlashen's transplanter in the course of a week, and transferred to the pleasure grounds of Edinburgh Advocates. Why should we not have some of them in Kingston, that, in the oriental language of Emperor Akbar, "their sweet odors may reach every one, and that from those luxuries a voice may go forth to travelers calling them to rest in the cities where their every want will be supplied."

I have thus thrown out a few hints that may suggest inquiry or discussion or contradiction. It will be strange if I have talked so long without dropping some thought that may take root in some one's mind. One thing is certain, that I have not been sowing on a stony soil; and if perchance one seed should grow up