the moisture which a slower, gentler, or obstructed fall would supply. They furnish, by the decaying leaves which they annually shed, a spongy surface to retain the moisture that falls upon them, and allow it to percolate gradually to the ground beneath. They present an effectual barrier to the force and chilling influence of stormy and cold winds; and they serve to retain the covering of snow that protects the ground during winter. These are some of the important mechanical effects of woods. The influence they exert upon the atmosphere and conditions of climate, by their vital action, is still more marked and important. During the life of a tree, two processes are going on, at certain seasons of the year especially, with surprising vigour; these are,—absorbtion of fluid by the root, and exhalation of watery vapor by the leaves. The amount of water taken up by the roots of a tree, and circulating throughout its entire mass, is very considerable. We may form some idea of the extent of this process, though only an approximation to the reality, by considering the rapid and abundant escape of sap from the cut surface of a vine, in spring. Or again, the familiar process of maple sugar-making affords a striking illustration in point. It is estimated that, in the course of a single sugar season, a single maple, two feet in diameter, will yield not less than twenty gallons of sap. Now, when we consider that this quantity has been abstracted within the short space of two or three weeks, from only a very small proportion of the sap vessels of the tree—that the quantity, in comparison with all the sap that is contained and circulates in the tree, is so inconsiderable as not apparently to arrest its growth or vigour to any appreciable extent—when we multiply this amount in a single instance by the number of maples and other trees, of all sizes and ages, within the compass of a single acre, we shall be convinced that this acre of wood is indeed a vast reservoir of water Many other illustrations might be given of the influence of trees in collecting and storing moisture. As an instance in point, we may mention that in an account of an excursion to the east of Tocat, in Asia Minor, Mr. Van Lennop mentions the fact that, although the ground was everywhere else perfectly dry, the oaks in that region had collected so much moisture, that their leaves and stems and trunks were wet, and the soil about them was in some cases even muddy. Mr. Ellis, in his account of Madagascar, also describes a remarkable tree, called the "Travellers' Tree," the leaves of which exude a copious supply of water from their points, which is conducted by a grooved channel along the stalk to the base of the leaf, which is there bulged out and forms a hollow receptacle to receive and hold the water that flows into it. This natural reservoir of water affords a welcome draught to assuage the thirst of the traveller, in a region where there is often no spring or stream, or other means of obtaining the needful element for sustaining life. These examples are a few only of the many that might be given to show the vast amount of fluid that is thus stored up in trees.

From this abundant reservoir of water, part is returned by the roots into the soil, and a very large proportion is given off into the air by exhalation from the leaves. Both soil and atmosphere are thus rendered more humid by the presence of forests. From the moist ground, and from the saturated sponge, as it were, of the aggregate of the forest foliage, the exhalations of watery vapor give rise to the formation of clouds, which shield the earth from the too fervid rays of the sun, moderate temperature, and return to the soil in freshening showers the liquid treasures which they serve to store and distribute. Moreover, the evaporation thus going on, from the forest and the soil, produces by a natural law a considerable amount of refrigeration, and thus materially tempers the heat of the summer season. Experience in many lands has abundantly confirmed this view of the subject, and shows that the destruction of the woods has been followed by a diminution of the annual quantity of rain and dew, and other corresponding changes.

A Model English Farm.

HARVESTING THE CROPS

To the Editor of THE CANADA FARMER:

SIR,—At harvest time all the strength and energy of the English labourer is called into action; working hours are lengthened, and all hands that can be had are called on. When much expedition is required, between forty and fifty men, besides their wives and children, have often been employed in the harvest field at the same time. Neither scythe nor machinery are used in cutting the grain, but the wheat is all reaped, and the oats, barley and beans, for the most part "fagged" with curved stick and fagging-hook. This may, perhaps, excite some surprise among the advocates for machine work in Canada; but England is different from this country,—there labour is cheap, and the summer is long, and there all the straw possible is wanted for litter and the manufacture of manure, and for this purpose the fagging-hook cannot be excelled;—this, I think, will sufficiently explain the continuance of this custom, mingled perhaps with a little hereditary love for old ways and old things. The fields are generally marked out into lands by water furrows, and the men in working each take a land, or two or three lands, according as they work alone or in parties. A good workman, with the assistance of a child or two, will cut and bind from ½ to ¾ or even one acre in a day. The cost per acre of reaping is ruled by current prices and the condition of the crops,—about $2.50 per acre, for the white straws, and somewhat less for the peas and beans. After the grain is carried, the wheat stubbles are usually mown close, at a cost of 75 cents per acre, and the haulm used as litter during the early winter.

In harvesting the root crops, the usual method is for about fifteen or twenty men to take each seven rows of roots, pull them, and throw them into heaps with leaves turned outward; women and children follow to top them and cover up the heaps with leaves as they finish them; then the carts are brought on (light two wheel carts), and the roots filled in and carried off to "the bury"—a long ridge of roots formed generally on the outskirts of the field, where the crop has been grown; a couple of men stack them up, and as soon as all are stowed away they are well covered in, first with a thick layer of haulm or straw, and then a coat of earth. When Swedes are to be fed off on the land during winter, the roots are pitted—that is, they are laid in heaps with their leaves on, and covered up with earth till wanted for use.

The growth of roots per acre is usually estimated by weighing the product of one pole in several parts of the same field. In 1863, 28 tons of mangold were grown per acre, on a piece of 22 acres; six different plots were marked out previously to the roots being pulled, and the mangold from each piece weighed separately—

	ton.	cwt.
The 2 best plots gave	35	17 per acre.
" 2 medium "	30	1 "
" 2 worst "	18	15 "

In 1864, 32 tons per acre were grown on a 15 acre piece.

AFTER TREATMENT OF THE LAND.

After the different crops are off, the land is seldom interfered with, until the plough is put in for the succeeding crop; regular attention being paid to the destruction of weeds, it is scarcely ever necessary to go to any great labor or expense in cleansing the stubbles; the fork is used occasionally at almost all times of the year for drawing out couch roots, which are gathered together and burnt by boys and women. Where fields or parts of fields have become very much overrun with couch-grass, the breast-plough is generally used to pare the surface; the men work in couples and drive the "plough" in front of them, the handle being held horizontally by both hands, and pressing against their thighs, which are protected by small wooden plates; between them they do about three-quarters of an acre per day. The breast-ploughing costs $1.50 to $2.00 per acre, and the subsequent raking and burning about 50 cents more.

MANURING.

A somewhat large proportion of the farm is dunged every year. In 1864, one hundred and thirty acres of arable land were manured with from ten to fifteen tons of dung, and about fifty acres of pasture, with seven or eight tons. Putting the average per acre at ten tons, there must have been fully eighteen hundred tons got out on the land during the year. The yards and boxes are cleared from time to time as soon as they become moderately full,—the latter will hold fully two feet depth of dung. Dung-heaps are formed in different parts of the farm—wherever, and at what time they are most required; when wanted for immediate use they are usually turned, but if required to remain for some time before being taken out on the land, it is a common practice to cover them with a coat of earth to preserve their goodness.

PASTURE.

The pasture land has already been described as consisting of 480 acres; it is divided into fields of about twenty-five acres each, some more, some less; the largest is one of one hundred acres. The grass is variable in quality,—in some parts very fertile and productive, in others less so. Among the best grasses are timothy, rye, brome, soft woolly, and sweet scented vernal, and of the coarser sorts are dog's-tail, fox-tail, oat grass, and cock's-foot; in most of the fields is a good undergrowth of Dutch clover, mingled with a little red. The only weeds at all prevalent on the pasture land are the wild chamomile, wild parsley, dock, and thistle; but by constant and persevering attention they are pretty well kept down.

Of the 480 acres, rather more than half is hayed annually; the remainder being kept back for grazing purposes. Fields intended for hay are not grazed after Christmas,—unless, perhaps, a few ewes may be turned on during the very early spring. The grass is all cut by the scythe; machinery has been tried, but the scythe is still preferred The mowers are set on about the 1st or 2nd week in June. As soon as the grass is cut the swathes are tedded by the machines, which are driven across them, and scatter the grass evenly over the whole face of the field; after drying for a time it is raked into "wallows," and then the wallows are put into "wake" by raking four rows into one, and the wakes turned by the machines passing down them; if the hay is still too green to carry, the wakes are again split into two or three wallows, and once more turned by the machines; at the approach of rain the hay is put up in cocks, or if there seems prospect of much wet, is summer-cocked. In fine weather it is seldom left out more than three days, and great care is always taken not to over-dry it. The cost of mowing is from 75c to 90c per acre. The precaution is usually taken to ventilate the hay-ricks; it is done by means of a long wicker basket placed upright on the stathel, and raised as the rick advances. The quantity of hay usually grown per acre may be put at something more than thirty cwt. In 1865, 500 tons were grown upon 269 acres. No hay is sold off the farm, but all is consumed on the premises, some sixty or seventy tons being always kept in reserve in case of any emergency. Dung is generally got on as soon as possible after the hay is off; it is thoroughly spread and broken over the ground, and after rain is still further broken and distributed by the chain-harrow All the pasture lands are chain-harrowed in the spring—the cattle droppings being first broken and knocked about by women with forks.

LONDON. E. T. W.

On the Cultivation of Hops.

POLING.—Hops in this country will generally come into full bearing, particularly when raised from nursery plants, the second year. Poles should therefore be provided and got in the ground during the preceding winter; an operation that involves one of the principal items of expense in raising hops. In most parts of Canada white cedar, hemlock, &c., can be readily got; and as these young trees have a tapering growth, they are admirably adapted to the climbing habits of the hop, and also possess, in a high degree, enduring qualities. A pole, nearly as large at the top as at the bottom, is not only of a form unsuitable to the hop's natural habits of growth, but is peculiarly liable, when heavily laden, to be blown from its original position by the action of the winds.

The size and length of poles must be regulated by the age and vigor of the plant, and in some degree