means be brought into as vigorous a state as the remainder. These kinds of manure should be evenly sown upon the growing plants in spring, but not too late in the season. From 150 to 250lbs. per acre will generally be found sufficient, and in a few days after a shower or a damp atmosphere, the change will appear quite magical; the color of the plants rapidly changes from a sickly yellow to a swarthy green and their growth is greatly promoted. Guano, when of good quality, acts in a similar way, but as this manure contains a larger number of ingredients that enter into, and build up the organism of plants, and being frequently rich in phosphates, it is more generally to be depended on than the nitrates; particularly in developing the grain in the ear. Woolen rags are an excellent manure, but their action is slow, and they yield many nutrient principles during their tardy decomposition. Farm-yard manure varies greatly, both as regards its composition and fertilising power. When it is the result of poorly fed animals, with a mixture of straw and other refuse, after a long exposure to the action of the rain and atmosphere, it is but of little worth.

We would suggest to our correspondent, the propriety of improving his field by subsoiling; deepening the entire soil can scarcely fail of being beneficial, provided it be sufficiently dry; if not, draining should be resorted to as the first step to any kind of improvement. The manures before mentioned, (except dung,) have been referred to more with a view to show what is done in other countries, and to throw a little light on the important subject of the nutrition of plants, than from any hope of their becoming available by Canadian farmers, to any great extent, for many years to come. If the soil upon the application of strong vinegar, does not slightly effervesce, a good dressing of lime (say from 100 to 130 bushels per acre) would, no doubt, be highly beneficial. In this country, however, it is very rare that a large expenditure for manures can be justified, by the value of the returns. The grand secret is to sustain the original stamina of the soil, not by expensive manures, but by husbanding and judiciously applying all that can be ; the air beneath, as can be done by this pump,

made in the farm-yard, and by adopting a less scourging system of cropping. Our correspondent would most probably find, that laying down his field to grass, for a few years, so as to carry a goodly number of cattle and sheep, it would afterwards yield a profitable grain crop. Soils of naturally a second-rate quality, should be very leniently dealt with, and in a country where labor is high and produce low, such lands should be allowed long alternate intervals of rest by pasturing: We shall be happy to hear from any of our agricultural correspondents on these matters.]-EDITOR.

VILLAGE LECTURES .- No. 3.

The Soil and the Air Continued.-Let me furnish other proofs of the fact that most of the bulky part of our plants is derived from the air. I have already proved it by showing that there is no other source except the air from which a plant can get its combustible part, and there are two other ways in which I can prove it-I can show you that the air is heavy enough to render it very likely that it contains enough of substance to grow plants of, and I can show you that it ac ally does contain the very things on which plants feed.

Why has the soil always been supposed to furnish the substance of plants? Is it because there is enough of it-good heavy stuff, that you might suppose able to build up heavy substantial plants and trees? Why the air surrounding the earth is at least twenty times as heavy as all the surface soil surrounding the earth-even supposing it to be on the average twelve inches deep ? Though it is so easily moved through, the air is heavy enough, I can tell you. There are 15 pounds' weight of it resting an every square inch of ground. The whole atmosphere of the globe weighs as much as a ball of lead would weigh, though it were sixty miles in diameter. You can judge in some measure of the weight of the air by the way in which it will stretch a piece of rubber India extended over an open jar fitted to the plate of an air pump. If it were held at the four corners, and weights piled upon it, they would stretch it, and if heavy enough they would break it; but if it rested on a stool they could not .---Just so the air above it cannot stretch it now, because it rests on the air beneath; but remove The stool and the weights will stretch it; remove