a proportionate retention of moisture in the ground; not stagnant moisture (the drains take off that), but active, vegetative, growing moisture, accompanied with an equally growing, genial heat, which the loosening of the subsoil allows to penetrate to a depth which, before the draining and loosening of the soil took place, was utterly impossible; as then, instead of the heat penetrating or being absorbed into the earth, to benefit and nourish the crops at the roots, where they most wanted it, the hot sun leaving only the shallow surface soil to act upon, would burn up all vegetation to any depth that ever the plough had stirred. And that surface soil becoming completely dried up, would ultimately radiate or throw off a great portion of the heat into the already too much heated atmosphere, producing that scorching arid dryness, which is so disagreeable to the animal functions, and, of course, may be fairly presumed to be no less so to the vegetative.

In analysing the above, it seems to stand thus: that so long as the soil is undrained, and untrenched or *subsoiled*, the heat penetrates but a very short distance into it; consequently, the drying up of that small portion is so complete, that evaporation from the moist bottom soil almost ceases. And what little evaporation there may be, is so quickly dried up by the half-roasted surface soil, as to be of very little avail to the growing crops. On the other hand, when the land is drained and subsoiled, then the moisture, from a greater depth, will be encouraged or drawn to the surface by the influence of the sun's heat, and in coming up through the deeper and lower soil, will be caught or absorbed, and, as it might be termed, held in solution by the soil, ready to act in the most beneficial manner upon vegetation.

Finally, allow me to recapitulate the tenor of the above in one single paragraph.

The drains draw away all stagnant moisture: subsoiling loosens the under soil, and allows this stagnant moisture to run to the drains, it allows the roots of the crops to penetrate to a greater depth, it allows the sun's heat to warm and moisten the soil as above described, it allows the atmosphere to circulate in the soil, purifying and sweetening the whole—the same as good ventilation does our houses. And when all these advantages are brought to bear upon the land, it will not require any great stretch of imagination to anticipate what the results will be with respect to the crops. What, then, may the results be with respect to the health and salubrity of the climate? Why, where these improvements are extensively carried out, the chances of general good and vigorous health will be increased in a twenty-fold ratio. And being assured of these very great benefits, both to the health of climate and the productiveness of the soil, it behoves every one having a piece of land to improve, to be up and doing, beginning with a little, and that little once well done, will assist in doing more, until, in a very few years, those who now begin *in a right spirit will see it to be so much to their* own interest in every point of view, that they will consider a certain portion of such improvements every season, as necessary as the common ploughing of their land. And then no great fear but neighbor will follow neighbor in doing the same thing, if it interests them.

Then they may safely say good bye to fever and ague, rheumatism, &c., and good bye to burnt-up grass fields, rusted wheat, and many other drawbacks consequent on an impoverished state of the land.

To you, Sir, individually, it would be presumption to write the above; but to you, as the medium of addressing the Association and the public at large, I have addressed it.

And now, trusting that the interest of the subject may be an excuse for trespassing upon you at such length, I shall proceed to give you the result of the various crops in detail, of which the articles sent for exhibition are fair specimens.

The following is collected from the descriptive card, attached to the specimens:—

BARLEY.

No. 1, sown May 21st, at the rate of 1½ bushels seed per acre; produce, at the rate of 55 bushels per acre; weight, per bushel, 61 lbs. Soil light.

No. 2, sown May 24th, at the rate of 2½ bushels seed per acre; produce, at the rate of 38 bushels per acre; weight, per bushel, 62 lbs. Soil very light.

No. 3, sown May 26th, at the rate of 2 bushels seed per acre; produce, at the rate of 52½ bushels per acre; weight, per bushel, 61 lbs. Soil sandy.

No. 4, sown May 19th, at the rate of 1⅞ bushels seed per acre; produce, at the rate of 53 bushels per acre; weight, per bushel, 61 lbs. Sandy soil.

No. 5, sown May 19th, at the rate of 1½ bushels seed per acre; produce, at the rate of 36 bushels per acre; weight, per bushel, 63 lbs.—Soil light.

Note—The barley was all of one kind, but sown at different thicknesses; and I might mention that the above weights show the highest point that it was possible to dress it up to.

COMMON OATS.

Canadian white, sown May 21st, at the rate of 2½ bushels per acre; produce, at the rate of 77 bushels per acre; weight, per bushel, 33 lbs. Soil, black deposit.

Canadian black, sown May 21st, at the rate of 2½ bushels per acre; produce, at the rate of 74½ bushels per acre; weight, per bushel, 33½ lbs. Soil, vegetable deposit.

Kildrummy, imported, sown May 20th, at the rate of 3 bushels per acre; produce, at the rate of 60 bushels per acre; weight, per bushel, 36 lbs. Soil, black deposit, with sand.

Scotch Barley Oats, imported, sown May 20th, at the rate of 2¾ bushels per acre; produce, at the rate of 58 bushels per acre; weight, per bushel, 35 lbs. Soil, black deposit.

Sandwich Oats, imported, sown May 20th, at the rate of 2½ bushels per acre; produce, at the rate of 66½ bushels per acre; weight, per bushel, 34lbs. Soil, black deposit.