

new set of roots, branches, &c. On examining many roots of wheat, some had a knob between the seminal and coronal roots, &c., appearing to be an effort of nature which proved abortive, being not near enough the surface to obtain air. If the seed is placed anywhere between six inches and two from the surface, there will be a set of coronal and seminal roots and branches; but if the seed be placed anywhere between the surface and two inches below, there will be only one set of roots and branches, and those immediately progressing in their different directions from the seed. I have said the stem or thread arises from the seminal roots to within two inches of the surface in the autumn; but this depends on the dryness and porosity of the soil at the time of vegetating; for, after the soil has settled by rains, and according to the tenacity and specific gravity of the soil, also its moisture, which increases the specific gravity and prevents the access of atmospheric air, so will it be found nearer the surface; so that in the spring of the year, if any branching takes place at a late period, it will be found to be entirely on the surface.

From the above statement of facts, I draw this inference: that if a grain of wheat is deposited upwards of two inches below the surface, that it has an extraordinary effort of nature to make, to come up to that point beneath the surface where it has access to atmospheric air; and is proportionately great according to the depth, quality of the soil, moisture, &c., which must occupy a proportionable length of time, and consequently is equal to having been sown so much later, if put its proper depth.

The next inference I make is, that the branching of wheat being within that distance to which the Hessian fly is known to penetrate, and that its branches become shallower and shallower according to the lateness of its branching, that deep seeding is no preventive against the ravages of the fly.

The last inference, and not the least, is that where the seed deposited is deep, and out of the influence of atmospheric air, that should the season be moist or wet at the time of seeding, the specific gravity of the soil being increased, and its pores closed with moisture before the vegetation has reached the branching point, the seed will rot in the ground, and either partially or totally destroy, or rather prevent a crop being made. This happened to several of my friends this last fall, and is a circumstance that I have seen often happen, notwithstanding the strong disposition farmers have discovered of late years for deep seeding. To conclude, from a consideration of the above facts, and thirty years' experience, I am of opinion that the best depth for seeding wheat is, from one to two inches.

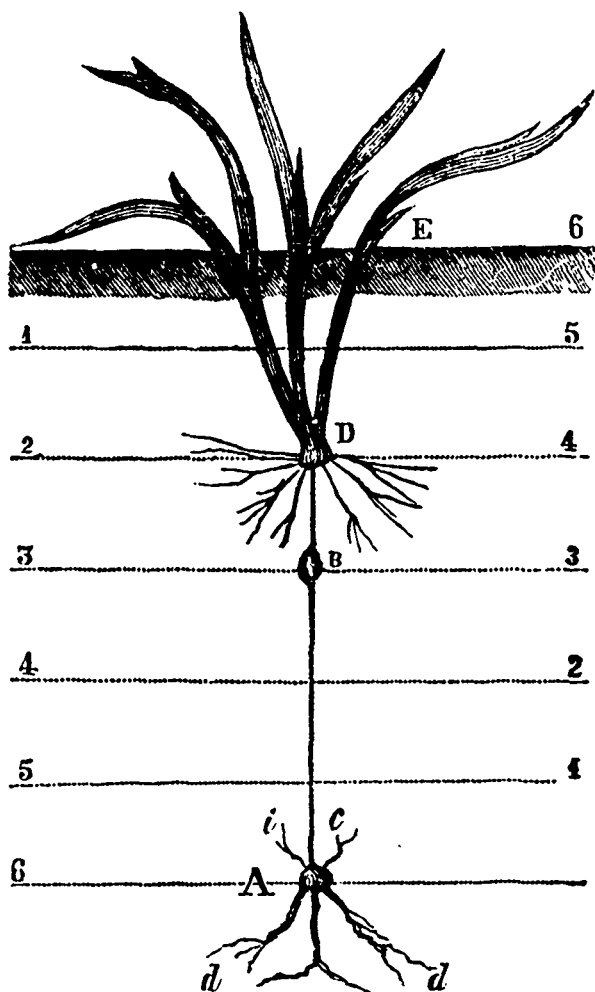
Thus I have endeavored to communicate my ideas respecting the growth and depth of seeding the wheat crop, and as connected with the Hessian fly; should it prove acceptable to the society, I shall be amply rewarded for the trouble I have taken.

A. The grain of wheat deposited six inches beneath the surface of the earth, where it sprouts and throws out roots and two leaves which are called its seminal leaves and roots, and a central thread denominated caudex.

B. A bulb formed on the caudex, being an effort

of nature to form branches and roots at that place; but being too far out of the influence of the air, goes on to within two inches of the surface.

D. The coronal roots and branches, formed two inches below the surface, having now reached within the influence of atmospheric air.



WHEAT FROM THE GRAIN TILL IT BRANCHES.

c c. The two seminal or first leaves, dead when the wheat has branched on the surface, and are hardly discernable without the aid of a magnifying lens.

d d. The seminal roots also dead after the coronal roots appear, and then are no longer useful to the plant.

E. The surface of the ground.

1, 2, 3, 4, 5, 6. Dotted lines marking the number of inches beneath the surface at E—Wm. Meriwether in Plough, Loom and Anvil.

Right in one thing becomes preliminary towards right in everything; the transition is not distant from the feeling which tells us that we should do harm to no man, to that which tells us that we should do good to all men.

Hops, mustard and caraway seed, came to perfection as wild plants in Germany.