could long remain healthy so. It is an error to suppose, as many do, that the roots of plants feed only on the soil. They feed also on the gases floating in the atmosphere, through the decomposition of organic beings. More especially do they feed on ammonia, from which they probably derive the major part of their nitrogen. The mechanical force of the descending rain brings these substances to the surface, where they are left to be absorbed by the roots in the immediate vicinity. Roots which are far beneath the surface can so receive no benefit from these revivifying circumstances.

It follows, from these principles, that the nearer the roots of plants are to the surface of the earth, consistently with their real known *aversion to light*, the nearer will they be to those conditions which nature's immutable laws declare to be most conducive to a perfect state of health. Should the transplanted tree be likely to suffer from drouth, a good mulching will effectually prevent that, besides be of good service in affording nutriment.

[We can bear our testimony to the accuracy of Mr. Meehan's statements, as to the disadvantages of deep planting. We have seen hundreds of acres of ash plantations in England, resting on a wet clay subsoil, yielding no produce after a lapse of sixteen or twenty years. It is the same with fruit trees, under similar circumstances. Deep planting may succeed in rich and dry soils, but on such as are cold and wet success is physically impossible. Indeed, we very much question the propriety of planting in the latter at all, without first effecting a thorough artificial drainage, and this should be done deep, or the roots will speedily obstruct the drains.—Ed. Agriculturist.]

Fruit Trees by the Road Side.—The practice o setting out fruit trees by the road-side cannot be too highly recommended. In many parts of Europe this practice is general, and the fatigued traveller acknowledges the well-timed hospitality thus afforded him. The excuse is often made, that the fruit will be stolen, but if the practice were general, the amount of fruit taken by wayfarers would only be what common hospitality would freely grant; and in Germany every third tree, by custom, may be *tabooed*, (the owner of the adjoining farm ties a piece of rag to one of the lower limbs of the tree,) and no traveller will touch it. Travellers inform us that no reward will tempt a German stage-driver to regale his passengers with fruit from a marked tree—two out of three thus being left for their use, if desired, renders the selected tree free from the chance of being used. The amount of fertilizing materials continually wasted upon roads would be rendered available by such a practice, and nothing but extreme selfishness will prevent the use of these materials for public benefit. Many of the larger sorts of fruit trees are highly ornamental and afford fine shade, while the use of fruit trees for shade, like the display of costly mansions, only excite the poor to envy, without adding materially to their comfort or health.—*Working Farmer.*

Improvement of Apples from the Crab Apple.—It has been stated by some writers, and generally believed, that our immense variety of apples all originated from the crab apple. A paragraph in the last American Farmer, quoted from the Alabama Planter, corroborates this statement as follows:—"Our friend, James Magoffin, Esq., of St. Stephens, has for a series of years bestowed considerable attention upon the apple, and among the many fine sorts he now cultivates, has obtained, by successive plantings of the seed of the native crab apple, one of the best fall and winter apples in the Union."

From this fact we may learn the good results of experimenting with fruits in order to improve their qualities. If a man could live long enough to pursue these researches, he would find astonishing results from his experiments. Van Meres, Knight, and some others, were successful during their day, in improving and procuring new fruits from poor and apparently worthless parents.—*Maine Farmer.*

Instinct of the Ant-Lion.—Among the instincts which direct animals in the acquirement of their food, few are more remarkable than those possessed by the larva of the ant-lion, a small insect allied to the dragon-fly. This animal is destined to feed upon ants and other small insects, whose juices it sucks: but it moves slowly, and with difficulty, so that it could scarcely have obtained the requisite supply of food, if nature had not guided it in the construction of a remarkable snare, which entraps the prey it could not require by pursuit. It digs in fine sand a little funeral-shaped pit, and conceals itself at the bottom of this until an insects falls over its edge; and if its victim seeks to escape, or stops in its fall to the bottom, it throws over it, by means of its head and mandibles, a quantity of sand, by which the insect is caused to roll down the steep, within reach of its captor. The way in which the ant-lion digs this pit is extremely curious. After having examined the spot which he purposes to establish itself, it traces a circle of the dimensions of the mouth of its pit, then placing itself within its line, and making use of one of its legs as a spade, digs out a quanity of sand, which it heaps upon its head, and then, by a sudden jerk, throws this some inches beyond its circle. In this manner it digs a trench, which serves as a border of its excavation, moving backwards along the circle until it comes to the same point again; it then changes sides, and moves in the contrary direction, and so continues until its work is completed. If, in the course of its labors, it meets with a little stone, the presence of which would injure the perfection of its snare, it neglects it at first, but returns to it after finishing the rest of its work, and uses all its efforts to get it upon its back, and carry it out of its excavation; but if it cannot succeed in this, it abandons the work, and commences anew elsewhere. When the pit is completed, it is usually about thirty inches in diameter by twenty in depth; and when the inclination of its walls has been altered by any slip, as almost always happens when any insect has fallen in, the ant-lion hastens to repair the damage.—*Carpenter's Animal Physiology.*

Mowing Pastures.—We have before spoken of the necessity of keeping the grass of pastures from running up to seed and dying on the ground. As grass grows with more rapidity in the earlier part of the season than at a later period, it is difficult to keep properly fed down, without putting on more stock than can be kept on the land after the *flush* of feed is over; and yet, if the grass goes to seed and lies on the ground, the after feed will be less in quantity and of a poorer quality. The difficulty may be overcome by mowing the grass at the right time—before it has run to seed, at all events. This may be done on many pastures to good advantage, the hay obtained being of good quality for any kind of stock; and the pastures are left clean, start equally, and afford a good growth of fresh afterfeed. We have lately met with several farmers who have followed this practice for many year, and they agree with us in regard to its utility.