

they do not need to be so close together. Moreover, the deeper drains are less liable to leach out the soil of its fertility in the shape of its more valuable components. In draining, the nature of the soil, the lay of the land and any other conditions have to be taken into consideration in laying out the drains, including their frequency and direction.

FERTILISERS.

Baryard manure is far and away the best all-round fertiliser for any kind of soil. Not only is it as near a perfect fertiliser as can be obtained naturally, but the fact that it is the means of placing humus in the soil, which is being constantly exhausted, alone places it in the front rank of fertilisers. I am an advocate of placing it on the land fresh day by day, provided the conditions are such that the most valuable constituents of the manure will not be leached out of the soil. If this is impracticable, then the best plan is to place the manure under cover, spreading it out so that it will not heat, and allow calves or other stock to run on it. By those means the rain will not leach it out, and by spreading over a larger surface it does not heat and so deteriorate in quality; moreover, such a shed forms an excellent open-air space for stock. Other authorities advise well-rotted manure as being the best form to apply it to the land for an apple orchard. From all points, which I do not think it necessary to enter into here, I have faith from personal experience in the application of manure fresh from the stable. In any case, whatever plan is adopted the greatest care should be taken to prevent the manure from leaching out and from heating, either being fatal to its highest usefulness. Unleached wood ash is another most valuable fertiliser for fruit trees. Unfortunately, however, in British Columbia the proportion of conifers is so much in excess of other woods that good wood ash is not obtainable in any quantity, coniferous woods making but little ash, and that of an inferior quality. All wood ashes are, however, valuable, and should be carefully preserved from rain and applied in an unleached state to the surface of the ground near fruit trees. A word here of warning as to the placing of fertilisers about trees. I have frequently noticed that manures are heaped about the trunks of trees. A little consideration will show the fallacy of this method. Such a practice really does more harm than good, inasmuch as it affords shelter for vermin, field mice, voles, gophers, etc., which destroy the bark of the trees, but the fertilising elements contained in the manure are wasted, as they are leached out into the soil and never reach the feeding portions of the roots. What is meant by the feeding parts of the roots are the small fibres which extend a long way from the trunk. These fibres, even in small, two-year-old trees, may extend two feet from the trunk, and it can be therefore easily imagined that in a five-year-old tree the distance may be anywhere from ten to twelve feet. It follows, therefore, that a clear space of several feet should be allowed all round the trunk of the tree.

Commercial or artificial fertilisers, so-called, are useful for replacing the lost or wanting elements of fertility in the soil, but it must be understood that they do not supply humus, without which the soil soon becomes hard and lumpy. Therefore, in conjunction with artificial fertilisers, it is important that something should be done to put humus into the soil, and for this purpose no better method can be advised than the seeding down with