portance is drainage. A well drained soil is seldom injured by too copious a supply of water, but one that is imperfectly drained may easily be made into quagmire. Good drainage therefore should be the first thing provided for. The only soils which do not require draining are those which overlay sandy or gravelly beds. If the soil be drained with tiles, these should be laid three feet deep so as not to be choked with the roots of plants; drains made of gravel or wood should be laid below the frost line. The second is, that no soil should be disturbed when wet, the work of sowing, weeding, cultivating and gathering the mature crops, should be so arranged in reference to watering, or the watering should be so arranged in reference to them, that they may be performed when the soil is dry. If the soil is liable to bake it should be so worked before the surface becomes too hard that the crust may be broken. The third point to be considered is the time of applying the water, which should not be put off at any time during the season until the ground is very dry; water should be applied by sprinkling a day or two before the seed is sown, or transplanting is performed. After sowing or transplanting, water very moderately and do not allow it to run over the ground so as to wash the plants or seeds; moderate and frequent waterings are the best for young growing plants, these waterings should be done by sprinkling, or, if this be impossible, have the beds made quite level with a raised edge, and allow the water to flow over them. Water thus used should be of the same or a higher temperature than the soil. No watering should be done during the clear, sunny or windy days. The effect of wind is to produce evaporation, and thus lower the temperature of the soil. For garden crops frequent and moderate waterings are preferred, and should be given every five days or oftener, as required, due regard being had to the variety of soil and its general appearance. The frequency of watering may be learned by practice, as one soil will require water at shorter intervals than another, and the rainfall will also have to be taken into consideration, so that no fixed rule can be laid down. Many people believe that, though annual vegetable plants require water, the small fruit-garden is capable of withstanding any amount of drought; this is a mistake, as they require a sufficient supply of moisture to enable them to assimilate the manure or life giving properties of the soil quite as much as do other vegetable products; and when we see, as was the case in 1876, the small size and general blotched appearance of the apples, occasioned, as it was stated at the Centennial by the most experienced pomologists present, from drought, which statement I have never seen contradicted but supported by the various pomological reports from different States, which I have examined, it becomes evident that irrigation properly applied would have remedied the whole difficulty and have given an ample crop of handsome fruit. It is stated that apple trees grown near a body of water never have an "off year" in the way of fruit, but bear regularly every year. I rather doubt this statement, but perhaps some of our Prince Edward County friends may be able to enlighten the meeting on this subject. Every orchardist and gardener is aware that insects are most numerous during dry seasons. Irrigation, it is claimed, would give vigour of growth to the tree and its productive capacity, and greatly mitigate the ravages of these pests. It is hardly necessary to insist on irrigation for orchards and vineyards; the utility has been proved in moister countries than ours-such as France, Italy and Southern Europe, where the olive, orange, lime, almond, fig and other orchard trees come in for their share of a systematic water supply. The Israelites, during their possession of Palestine-the humidity of which climate is very similar to ours, with probably about the same rainfall -though the winters are not near so cold-maintained their gardens and fields in a high state of verdure and fertility by a suitable application of water. There, as here, the rainfall was sufficient for a partial crop, but they found the practice of a liberal supply of water artificially bestowed at stated intervals essential to luxuriance in growth. For my own part I have not come to the conclusion that open air grapes in this climate require water after the fruit is well formed, as it might prolong the time of ripening and thus prove of disadvantage to the crop, but the wild vines, whose fruit turns black in August, principally grow along the banks of streams where the moisture is abundant, and I have not yet found that the fruit on these ripen any later than those grown in my own arid sand. The quantity of water required for irrigating an acre is one half pint per second continually flowing, or 5,400 pints per twenty-four hours, or 86 cubic feet per day. It will readily be seen that so large a supply of water as the above cannot be obtained from any natural spring where a large area is to be irrigated, though these may be

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