The qualitative analysis of the ash indicated the presence of the following substances, viz: Potassa, soda, lime, magnesia sesquioxide of iron, sesquioxide of manganese, sulphuric acid, chlorine, selicia acid, carbonic acid, phosphoric acid, charcoal and sand.

From this analysis it will be seen that only seventeen-one-hundredths, or less than two-tenths of one per cent. of the cranberry is found in ash, as in organic matter derived from the sod, all the rest obtained from the atmosphere and water. This is a reason why the cranberry will grow where nothing else will, requiring little for its development but air and water; this was in nature's state, but at the present date the modus operandi of cultivation is largely increasing the size of the fruit and quantity per acre, as is the case with other crops, the privilege endowed in man by his creator in the development of the mind.

CHAPTER II.

CHOICE OF LOCATION AND WATER PRIVILEGE.

This is an all important matter, as a suitable soil and the needed supply of water all the year round is not available and another most important point, drainage, the undertaking will fail. This is a reason that can be given why the business can not be overdone. As thousands of acres of marsh thought to be adapted to cultivation, only a small portion will be found suitable for the use when placed under cultivation. The alluvial formation is the only one adapted; this includes the most barren and most fertile soils, the dryest and dampest. There are in Wisconsin three kinds of marshes adapted to culture, first, the moss bed marsh, second the feather leaf and sage brush, and thirdly the grass marsh, with cultivation, and the same water privileges are
equally good and can by proper management be made a success, although the cost of improvement differing. Choice of location should be made at a sufficient distance from the main land or river or supply streams to allow of a reservoir pond which ought to be acre for acre of marsh improved or less, providing the supply of water to be a running stream throughout the year then the pond could be one-third less than the cultivated marsh. If you have a suitable location for the pond at the head of your marsh with tamaracks it is well to make it into the pond as you will have less evaporation, the purpose of the said reservoir pond is to give a proper temperature to the water and supply it to the marsh; at times of the year the temperature should not be less than sixty-five degrees; the water from the pond at portions of the year should be applied to the marsh through drip holes so that the decomposed vegetable matter goes on the surface, its natural fertilizer instead of through the ditches to waste and robbing the marsh, it going on the marsh gives nutrition to the vines and is natures fertilizer. The surplus water, or water required for use on the other portions of the marsh can be run through four feet ditches, or ditches suitable to the lay of the marsh. Some marshes requiring deeper ditches than others according to full depth of muck &c. I claim today, that the reason the first cultivated, or I would say, partly cultivated, marshes did not produce an increase of crops, was from the ditches robbing the marshes of what nature intended for them, and giving nothing in its place, then the water at certain portions of the year, was lowered too much for the condition of the roots of the vines of such a marsh. It is one thing to know how to run a wild marsh, or one partly cultivated, and another thing to know how to run one thoroughly improved. All wild marshes can be greatly benefited by a pond.