## THE SOIL.

The soil is constituted by the disintegration of the granite rocks lying in the neighborhood, and is therefore, probably, very homogeneous in its chemical composition; but there is a very considerable difference in the mechanical texture of the different lots, that portion of it lying south of the stream being principally sandy loam, while that lying on the north is a coarse gravel.

THE UNIRRIGATED MEADOWS.

My attention was first turned to the meadows which were unirrigated, but manured. One of these was being mowed on my arrival. It had been manured in previous years with barnyard manure and with the sediment in the bottom of the pond from which the irrigation is supplied to the lower grounds.

In order to determine the proportions of the various kinds of plants in this meadow, several spots were selected in various sections, which appeared to represent the average vegetable composition; these were cut over, and the culms of each species<sub>1</sub>were counted, with the following average result:—

White clover (trifolium repens).		52.3 per cen	
Kentucy blue grass(poa pratensis)	$35.2^{-}$	"	
Red top (agrostis vulgaris)	4.1	"	
Timothy (Phleum prulense)	3.2	"	
Meadow fescue (testuca pratense)	29	"	
Vine grass, or blue grass (poa			
compressa)	1.0	"	
Sedges (carices)	0.3	"	
Curled dock (rumex Crlspus)	0.4	"	
Butter cup (ranunculus acris)	0.4	"	

This table gives an accurate representation of the patches examined, and which were selected as average specimens of the whole field; but on a subsequent examination, I found several large patches which were almost entirely filled with sheep sorrel (*Rumex acetosella*) and others, which were largely intermixed with this plant. Around the fences and the outskirts of the field I found a five-finger (*Potentilla canadensis*) and some of the ox-eye daisy (*Leucanthemum vulgare.*) The rarity of this latter weed on the whole farm was very remarkable. I have never before seen any meadows so free from it. This meadow yield about one and a half tons the acre.

## THE IRRIGATED MEADOWS.

Contrary to my expectations, and to what is usually found in other places, the grass on the irrigated lands was the purest on the farm. A great number of small sections were carefully examined, plant by plant. without finding a single spear of any plant save Kentucky blue grass and white clover, in very nearly equal proportions, viz., 52 of the former to 48 of the latter.

There was occasionally a spear of sheep sorrel, and in two or three places I found three or four ox-eye daisies. A single plant of the butter cup was found in another spot, With these excep-

tions there was absolutely nothing on the save blue grass and white clover.

On irrigated meadows generally, the Iu: rye grass (Lolium Italicum), common ryeg (L. perenne), and rough statked meadow g (Poa trivialis), are found in great abundar, in fact, they are usually the prevailing gravbut I could not find a single plant of ei of them on Mr. Clift's lands. I have no dthat the introduction of the two former spec would increase his crop materially, but them ripens too late to cut with the others.

## THE GAIN FROM IRRIGATION.

The mechanical arrangements for the  $\dot{e}$  bution of the water are of the rudest kind, therefore fail to spread it as equally as desiring many spaces are found which have not beer any time covered with the water. A comparion of the weights of the grass growing out patches with those of equal ercas on the club pletely irrigated lands will afford us a perimetrion for judging the value of irrigat since the soil, and all other circumstances of ing vegetable nutrition, must be precisely in both cases.

Equal spaces of each were accurately near the grass carefully cut with a hook, and i weighed. The average of these weigh showed that the irrigated portions gase t' pounds of grass on the same space that fit, one pound on the unirrigated portions.

THE CONDITION OF THE LAND BEFORE IRREGA

This was the most unfertile portion of farm before it was irrigated. After plongseeding, and a heavy manuring, a good of gruss might be expected for one year, burthen would be diminished one-half these year, and on the third nothing would remain daisies, butter cups, dock, and sheep sorrel latter largely predominating.

Since the land has been irrigated it has received a single shovel full of manure of kind, while it yields from one to two tomupon an acre than the best and most h manured lands upon the farm. Even patches which escaped the direct action of water were henefitted by the soakage, proved by the absence of the weeds white viously infested them, and by a very ouable increase in the amount of grass skupon them.

## PROFIT OF IRRIGATION.

About twenty acres of land are under tion. Suppose the increase to be only a to the acre, and its value be \$10 per ta would give an increased annual income of The whole cost of dam and leading ditch \$500, which would thus be paid by the ind production in two and a half years, learny after a clear net income of \$200 as the: of the enterprise.

In the course of my journey from P.