

It is, however, necessary for the proper advancement of agriculture, and if the general government shall finally refuse to move in the matter, it will devolve upon the States.

If an arrangement could be made, by which each State will require that at least one of its most important staples should be thoroughly investigated, I am sure that our own little State will do as much as any of her sisters.

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## CHAPTER VI.

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### *Of soils and the causes of their exhaustion.*

We have to consider soils—

1. In the state that a bountiful Providence furnished them by the means already indicated, and
2. In the state to which they have been reduced by improvident man.

It has been shewn that all the inorganic constituents of plants are contained in our geological formations, and that by natural causes these are decomposed and disintegrated into what we term earth, clays, sand and soil, and that some of these remain where first formed, while others, especially on hillsides, are carried to greater or less distances, by water, and deposited.

The first were termed soils "*in place*" or *in situ*, and the second are named "*transported or drift soils.*"

As I have before stated, the great northern drift did not reach our State, and for that reason the soils on formation No. 5, (gneiss and mica slate, etc.,) and north and west thereof, are classed as soils *in place*, except along streams and in low grounds.

The local drift also formed deposits over large areas in parts of the tide-water counties.

The soils "*in place*" are as variable in their constituents as the formations they rest on, and from which they were derived. A single farm, nay, a single field, often contains soils of very different constituents. This is more especially the case where the formation consists of thin alternations of several different rocks, as mica slate, gneiss, hornblende slate, etc., inclined at a considerable angle with the horizon.

The strata southeastward of formation No. 5, are nearly level, inclining but slightly to the southward, and as before noticed these beds are made up of materials derived from all the older formations. We should expect, therefore, and