ferric salts humates and alkaline silicates are particularly liable to such a transformation. Thus silicate of potash, for instance, by the action of any calcareous salt, amongst other chloride, may be precipitated under the form of an insoluble silicate of lime by causing the formation of chloride of potash. Here we find ourselves confronted with the type of reversion by precipitation. Salts of iron would produce a similar reaction, the silicates of soda and potash alone being soluble. As we have seen this precipitation induces the formation of chloride of potassium, a salt that is injurious to tobacco, because of the nature of its acid which acts very unfavourably upon combustibility. This last consideration furnishes us with another reason why for tobacco we should seek a soil that does not contain too large a proportion of lime and salts of iron. Now certain soils of Canada are rich in lime and in ferric oxide; this last salt, in particular, shows its presence by the special colour it imparts to the soil which one meets with everywhere. The almost total incombustibility of the tobacco of St. Damase (Rouville Co.) is probably due to the excess of lime to which we refer, for the soils of that country exhibit a sufficient richness in potash from which we infer that potash is there present in the form of chloride.

Another important retrogression relates to the phosphates and determines the fixation of a notable quantity of phosphoric acid. The mono-calcic phosphate reacting on calcium carbonate, gives either bi-calcic phosphate or tri-calcic phosphate, or generally a mixture of the two. The salts of iron and of alumina may produce the same phenomena by determining insoluble sesquioxyde phosphates. This reversion of the phosphates is a serious drawback in agriculture, and so we perceive all the danger of the use of the superphosphates in the soils where salts of iron and of alumina and lime are in excess.

An excess of lime and of iron may also determine the precipitation of soluble humates, especially if the soil is deprived of phosphoric acid. This soluble humate, potassic humate for example, changes rapidly into insoluble humate precipitated by the salts of iron and of lime.

We should therefore be fortunate if we could make use of a soil rich in phosphoric acid, which allows of the formation of humo-phosphates and does not let the humates remain susceptible of becoming insoluble. Further it is not a matter of indifference as to whether we obtain one or other of these last. The humates which relate to agriculture are very soluble, whilst humo-phosphates being much less so will present greater resistance to the draining away of the water. The dissolvants are the solution of alkaline carbonates.

In conclusion we see that soluble phosphoric acid may be absorbed by humic matter or may be precipitated by alkaline humates, this precipitation being accompanied by the formation of humo-phosphates.

These then are the various considerations which should be of assistance to us in explaining the exhaustion of the soil and the inability of planters to increase their yields of tobacco at will.

Unfortunately we are obliged to follow general considerations arising from the great known laws. Is there really a lack of humus in our tobacco soils? Are there defective conditions of nitrification? Is there a lack of nutritive mineral elements? Is there in a word a due combination of the constituent mineral principles? We