

We require an appropriate and economical rotation that shall enable us to draw the greatest possible profit from the soil, whilst at the same time the formation of humus is being produced by considerable but not too heavy applications of farm yard manure: First, in order to avoid the disadvantages enumerated above, and next because we have not at our disposal any very great quantity of manure.

We apply the manure after breaking up the clover and we plough before the winter. We apply chemical manure in the spring at the time of the last ploughing, before the planting of the tobacco. An autumn ploughing follows the gathering of the tobacco, and the cereal and the clover will be sown together in the spring.

Tobacco being a plant that requires hoeing, is placed first in the rotation. By this means we get rid of noxious weeds which spring up from seeds contained in the manure, and we can with no risk of infesting our soil apply at least 15 to 20 tons of farmyard manure to the acre. It is essential to perform this operation before winter and to plough in the manure as deeply as possible. In this way frost will destroy a large proportion of injurious seeds and insects; the other seeds will germinate rapidly enough, once the fine days of spring set in, and it will be easy by one or more light ploughings, to destroy these weeds, thus perfectly cleaning the land besides increasing by so much our stock of fermenting organic substances, and returning completely to the soil all the nutritive elements which have served to build up the noxious plants.

By the application of dung upon the breaking up of the clover, we allow of the fermentation of the humus whilst supplementing the immediate requirements of nitrogen, since as a matter of fact the nodules of this leguminous plant rapidly yield assimilable nitrogen, and the soil will thus be able to await the time necessary for the dung to decompose sufficiently to allow of its nitrification.

There still remains the question of the choice of the cereal. And first, why do we choose a cereal at all? Because owing to its fasciculated root system, the cereal only exhausts the surface of the soil and therefore conveniently succeeds a plant like tobacco whose powerful roots deeply penetrate the ground.

We have the choice between wheat, oats, rye and barley.

Although coming well enough after tobacco, we can at once dispense with wheat, for after heavy nitrogenous manuring we should risk failure. Wheat too requires a great deal of phosphoric acid, especially when caring, and moreover it succeeds best in free soils of due consistency, such as sandy loams or chalky clays, not too wet. In other words the soil suitable for wheat would be too compact for tobacco, which needs a light and sandy soil. Rye would suit better, for it is really the cereal for sandy soils, and after tobacco would find its place in the rotation, since above all it needs a sandy soil well worked and autumn ploughed. The success of the rye crop depends essentially upon the thoroughness with which the soil has been worked. An ancient proverb thus expresses the agricultural law: 'Sow thy rye in powdered soil.'

It will not be altogether out of place to state here exactly what is meant by light tobacco sandy soil. Fine sand alone is of no use. From the physical point of view, coarse sand is exceedingly permeable, whilst fine sand is a settling element, although its containing power may, so to speak, be nil. In sandy soils which necessarily contain an insufficient quantity of coagulative elements, the formation of agglomerates