

ploughing for the last time, so as to avoid too great losses, especially in nitrogen, during winter.

On the other hand if the manure is calculated in such a way as to supply all the nitrogen and potash necessary, and this is what should be done: it will be seen that a considerable portion of the phosphoric acid remains unutilized; this it is that renders the use of a rotation of crops indispensable, to provide for the judicious use of this phosphoric acid, which the cultivation of tobacco could not completely absorb.

Farm manures can only be obtained during the period of barn feeding of cattle, it is quite evident that the quantities then gathered by a planter, who cultivates tobacco to a considerable extent, will often be insufficient, and he will be obliged to have recourse sometimes to the use of commercial manures or 'fertilizers.'

Regrettable errors have occurred in the use of the last mentioned, and it is to avoid their recurrence that this bulletin has been compiled, its object is to induce tobacco growers to discuss the matter in their agricultural societies before placing their orders, so that they may choose only manures suited to their crops.

Below appears a practical plan for estimating the exigencies of tobacco: *about*

'In nitrogen the exigencies are three times greater than those of cereals, equal to those of potatoes and of natural prairies, and only surpassed by beets and ensilage corn.'

'Phosphoric acid is taken out in proportions which are about equal to those of cereals.'

'In potash which is really predominant in tobacco, it is equal to beets.'

Lime in a fairly good proportion is equally necessary, but this element rarely fails in the soil, and can be easily introduced by means of other crops when the tobacco crop becomes one in a suitable rotation.

ESSENTIAL QUALITIES OF A CROP OF SMOKING TOBACCO.

If particular attention is given to smoking tobaccos, the cultivation of which is more delicate, owing to the great number of qualities which they must possess, it will be seen that they should:—

- 1st. Burn in a satisfactory manner.
- 2nd. Not be too strong, that is to say not to contain too much nicotine.
- 3rd. Be agreeable to the taste.

CAUSES WHICH INFLUENCE THE BURNING QUALITY.

Tobacco burns better the more potash its ashes contain, providing that the potash is combined with organic acids or carbonic acid only, and that it has no chloral composition.

Experiments have been made which prove that we could obtain combustible tobaccos by using as fertilizers, on farms altogether without potash, sulphate, nitrate and carbonate of potash. Silicate gives a result which is barely passable, chloride of potassium gives a very medium burning quality, and when the chlorhydric acid is combined with other matters than potash (magnesia lime), the burning quality is nil.

One ought therefore, before obtaining manures, to acquaint himself with the form in which potash enters into the composition of the fertilizer, and to remember that the most advantageous potash salts to employ (without regard to price) are in the following order: sulphate and carbonate, nearly equal, then nitrate, this last of a very good quality, and silicates; as to chlorides, they can increase the weight of the crops, but they give tobaccos no burning quality.

Potash well employed, either coming from farm manure, or a good mineral formula, (sulphate or carbonate); can act favourably in certain cases upon the fineness and flexibility of the tissue.

Tobacco cultivated on a damp and badly drained farm is usually of a middling burning quality and moreover the colour often remains greenish or dark green.