

G. Little



THE ARATOR.



Agriculture is the great art, which every Government ought to protect, every proprietor of lands to practice, and every inquirer into nature to improve.—JOHNSON.

DEVOTED TO AGRICULTURE AND ITS HUNDRED ARTS.

VOL. II.

RALEIGH, SEPTEMBER, 1856.

NO. VII.

NORTH-CAROLINA ARATOR.

By THOS. J. LEMAY, EDITOR & PROPRIETOR.

TERMS.—Published on the first of every month at ONE DOLLAR A YEAR, *invariably in advance.*

Advertisements, not exceeding twelve lines for each and every insertion, one dollar—containing more at the same rates.

ON THE FUNCTION OF SALT IN AGRICULTURE.

By NATHAN.

The employment of salt in agriculture has been of late years so much extended, that the question of the advantages derived from its use, which formerly gave rise to so much discussion, can no longer be raised. Facts have accumulated, which establish beyond all question, that its application to certain lands does increase their fertility, and improve the character of the crops grown on them. In this state of the case, it is exceedingly desirable, that we should have as clear an idea as possible of the *rationale* of its action, so as to be able to determine definitely and certainly under what circumstances it may be advantageously employed.

With this view, Mr. A. Beauchamp Northcote, Senior Assistant in the Royal College of Chemistry, England, instituted a series of experiments which seem to throw some light on this somewhat obscure subject. We propose to give our readers an abstract of these, so far divested of scientific technicalities as to render them intelligible to all.

It has long been thought, that the beneficial action of salt upon soils is due to a power of fixing *ammonia*; and with this view, it has frequently been spread over the surface of dung-heaps, with the object of preventing the escape of the ammonia produced in the process of decomposition. In some cases, it appeared to have been more or less successful, while in others it has signally failed. The question of its absorption of the ammonia eliminated during these changes, is very difficult of investigation. That an admixture of salt with guano, retards the exhalation of ammonia from the latter; seems to be strikingly proved by the recent experiments of a well known French chemist. M. Baral exposed to the air, for fifteen days, equal weights of guano, and of guano previously mixed with half its weight of salt; the amount of nitrogen in each being determined at the end of that time, he found that the pure guano had lost 11.6 per cent. of its nitrogen, whilst that mixed with salt had lost only 5 per cent. This experiment may be considered decisive as regards the influence of salt in retarding the exhalation of ammonia, but it throws no light on the *modus operandi* of its action. In fact the most natural supposition is, that the antiseptic qualities of the salt retard the processes of decay by which ammonia is extricated.

Before entering upon his experiments, which are restricted to the absorption of ammonia, Mr. Northcote gives the analysis and table of constituents of three specimens of agricultural salt, calculated to 100 parts of the dry salt. This we append:

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