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 KINDRED ARTS.

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CHEMISTRY OF MANURES.—ON FALLOWS.

THERE is no need to remind you that the practice of fallowing is of the greatest antiquity, for it will be remembered by most of you that the Jews were commanded to allow the land to rest every seventh year. The Romans were the first to introduce it into this country; neither was fallowing then, nor is it now, confined to any particular class of soils, it being as common on light as on heavy land. His Majesty, King George III, was in the habit of saying, "that the ground, like man, was never intended to be idle."

Now, it appears to me, that the fallowing of light soils is perfectly unnecessary. (This, you must understand, I advance only as the rule—I am perfectly aware that there may be a few exceptions to it, but these occur only on strong undrained clays.) I do not allude to green crop fallowing—but naked fallows, for on light soils there is no impediment to the successive growth of crops with proper management, and as regards weeds they can readily be brought under subjection; but this is not so easily to be accomplished on clayey soils. The question, then, which naturally arises is, to what kinds of land is fallowing best adapted? But previous to entering upon this part of the subject, it might be as well briefly to state the nature of fallowing, both in a mechanical as well as a chemical point of view.

In the first place, then, the effect of fallows, or the period during which land is allowed to remain at rest, is to disintegrate the soil, or bring it into a finer state of division; and, on account of its being thus rendered more porous, this causes it to be more susceptible of the influence of the atmosphere. By means of the action of the atmosphere and the decomposing effects of the sun's rays, certain substances in the soil are made soluble which were previously locked up amongst its mineral constituents, such as the silicates of alumina, potash, soda, ammonia, &. This is accomplished by the action of carbonic acid and oxygen in the air, aided also by the presence of moisture and rain water, which agencies are made considerable more powerful by the direct rays of the sun. There is much strong clay land scattered all over the country, which I think cannot be successfully cultivated without an intervening fallow. I say this, however, advisedly, because I am quite aware of what Mr. Mechi has done he having proved beyond all doubt, that where expense is not regarded, bare fallows are utterly unnecessary; and this, too, is consistent with all my preconceived notions of the nature and properties of the soil. On poor sand land fallow is positively injurious, because it tends to diminish what little organic matter it already possesses; but on the contrary, on heavy soils the improvement is mechanical as well as chemical. It will be noticed that proper exposure to the air and the influence of the sun's