

assured by a gentleman of the highest authority, that the application of from thirty to fifty bushels per acre, destroyed one crop ;— and that, after that it acted well.

I have also known plants in a green house destroyed by fumigations of sulphur, sulphurous acid being formed. When sulphuric acid is formed in the gas house lime, as formed it must be, gypsum at the same time comes into existence : and we will have its action and that of air slaked lime manifest, provided the soil to which it is applied be deficient in sulphates and lime.

What quantity of sulphuretted hydrogen, or free sulphur, must exist in the gas house lime at the time of its application, sufficient to produce deleterious effects, has not been as yet determined. There is the same poverty of *exact* knowledge in relation to this, as unfortunately there is in regard to other substances used as manures. The specimens marked No. 2, containing nearly one per cent. of free sulphur, on growing wheat, was applied at the rate of about one hundred bushels to the acre, last winter, by a gentleman whose statement can be implicitly relied on, with very good results: not the slightest injury was experienced. We thus have *one fact*, and that is, that gas house lime containing (.90,) equal to nine-tenths of one per cent. of sulphur, when used as a top-dressing to wheat in the winter, is beneficial.

The injurious effects which have resulted from its application, and its known properties, admonish us however, when ignorant of its exact composition, *not to apply it to a growing crop*, nor *to a soil that is to be immediately cultivated* ; when containing a large proportion of sulphur, to apply it to a soil abounding in *weeds*,—which are pests to cultivation,—and to meadows, sometime before seeding them, to destroy all grasses likely to injure the hay crop. We can also safely say, that when applied to a soil deficient in sulphates and lime, the combined effects of gypsum and common oyster shell lime will be experienced. When its composition is unknown, it should be applied to the surface one season before the crop is planted.

The numerous enquiries made of me lately, by letter and otherwise, in relation to gas house lime, must be my apology for dwelling on it so much at length.

From the above analyses, the great difference in the various lime used *indiscriminately* for agricultural purposes, can be seen at a glance :—some containing forty per cent. of magnesia, and some none ;—some containing near ten per cent. of gypsum, and some none ;—some having twice as much lime as others, and no magnesia. If every soil was exactly alike, could it be possible that each of these limes would be equally beneficial? If the oyster shell lime should be the best application, see what a loss would be incurred by the application of Schuylkill lime, No. 1, containing not half as much lime. If on the other hand this lime, (the Schuylkill.) should be the best—as it is for some soils—consider the loss in applying oyster shell lime, and thus withholding from them forty per cent. of magnesia.