EFFECTS OF DIFFERENT METHODS OF APPLYING FERTILIZERS TO CORN AND TO COTTON.

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The best method to follow in applying commercial fertilizers to crops will largely depend upon the character of the soil, the materials to be used, and the crops that are to be grown. A method that would give the best results with any particular crop on a clay soil, for instance, may be to a considerable degree an irrational one to be followed by the farmer whose soil is of an open, sandy nature. The one best suited for wheat may not yield the greatest returns with corn, cotton or tobacco, and general directions for applying cottonseed meal, dried blood and similar organic nitrogenous materials cannot always be followed in the use of substances like nitrate of soda or sulphate of ammonia to best advantage. It should be remembered that generally the best method to follow with any soil is the one that will result in the plants securing the maximum amount and thereby reduce to a minimum the loss of plant-food from the soil. Generally there is not, with the average soil of the state, much danger of loss of phosphoric acid and potash but there is always considerable liability of the available nitrogen being leached out of the soil if growing plants are not present at the time the application is made, especially so if the quantity is large, to take it up as soon as it is brought into solution in the soil water. For this reason every effort should be exerted to conserve this expensive plant food constituent by keeping plants growing on the land most of the time, for nitrogen naturally in the soil that is in available form is just as subject to loss. When phosphoric acid and potash are added to the soil they become fairly well fixed in the soil by the clay and humus but with the nitrogen there is no such fixation. When nitrate of soda or sulphate of ammonia, the most available forms of nitrogen, are added to the soil there is always considerable danger of loss, especially so if large quantities are used and the soil is of an open, sandy nature.

Because of the importance of knowing the best method to use in applying different fertilizing materials, particularly the organic and mineral forms of nitrogen, we began field experiments in different parts of the state on different types of soil several years ago to work out these different points. Up to this time chiefly cotton and corn