

etc., composition of which varies with the process of manufacture.

It is impossible to state definitely, for all locations and conditions, what form of lime is cheapest to use. Caustic, or quick lime, is the most concentrated form and consequently the most economical to handle. On account of its caustic properties, it is more vigorous in its action than the milder sulphate (gypsum), or carbonates (limestone, chalk, wood ashes, marl, etc.) There may be special reasons, however, why some of the latter forms may be preferable. For instance, gypsum, on account of its peculiar composition, has been found to be a specially valuable corrective of black alkali.

The frequency with which liming should be practiced, depends, among other things, upon the character of the soil and the rate of application, the number of years involved in the rotation practiced, the plants grown and their order of succession. As a general rule, it may be stated; that from $\frac{1}{2}$ to $1\frac{1}{2}$ tons of lime per acre every five or six years is sufficient. Applications of two or three tons may, however, be advisable in case of very acid soils, which are to be seeded down and remain in grass for several years. The practice of applying small amounts of lime at somewhat frequent intervals, is being generally accepted as preferable to the use of large amounts at rare intervals.

Lime in the form of carbonate of lime, as in marl, wood ashes, etc., can usually be applied with safety in the spring, or at any season of the year, but autumn is always the safest time to apply caustic or slacked lime. It is generally considered best to apply the lime to the soil immediately after ploughing, and harrow in thoroughly. Lime which is already slacked may be spread upon the soil directly from wagons or carts, or dumped into heaps and then spread with a shovel, although the most satisfactory plan, in such cases, is to use a lime spreader, or ordinary grain drill, with fertilizer attachment. Where a lime spreader, or similar implement, is not available, the burnt lime may be placed on the soil, in piles of from 40 to 50 pounds each, covered with moist earth, and allowed to slack before being spread with a shovel. Marls, frequently contain injurious compounds, and should, therefore, be allowed to weather for some time in the field, before being incorporated with the soil. The same is true of gas-house lime, which is impregnated with sulphur compounds, which are injurious to plants.

In conclusion, it may be said, ascertain first

whether lime is needed, If it is, apply it judiciously, and never depend upon lime alone to maintain the fertility of the soil, for all of the ingredients which plants need must be present in the soil to insure the profitable production of crops.

MEAT AND BONE FOR EGG PRODUCTION

The best material for promoting egg production is nitrogen, which is best fed to poultry in the shape of lean meat. If meat could be supplied daily in the proportion of one pound to 12 hens, there would be such an increase in the production of eggs as to really lessen the cost of feeding. That is, there would be sufficient eggs secured, over and above the number that would be obtained without the use of meat, to not only pay for the meat consumed but to increase the profits. And this gain would easily come, two extra eggs a week from each hen paying the bill, as the cheapest kind of meat may be used. Animal food is necessary for fowls if they are expected to be producers at all seasons of the year.

It is a mistake to make grain the principal food for laying hens. Grain is well enough for food for market fowls, but the laying hen demands something more. The egg itself is animal food, and although it can be produced from grain, yet the hen is required in order to be profitable to produce an egg each day and her work must not be interrupted from lack of nutrients.

Meat fills a want that cannot be supplied from any other source, when the hen is laying regularly. Cut bone and meat are now staple articles of poultry food. Instead of buying so much grain, buy fresh bones of the butcher, cut them with an axe in small pieces, put them through a bone cutter and cut them into a delicious hash which the fowls will relish. Meat and bone at 3c per lb will be found far cheaper than any kind of grain. Bones supply the albumen, lime and grit, and also lessen the risk of hens becoming too fat. When our poultry raisers and farmers feed more meat and less grain they will have larger profits. The introduction of the green bone cutter also lessens the cost, as cheap bones and meat can be cut fine and fed without the necessity of cooking the meat. Do not consider any food expensive if it makes the hens lay. There are several styles of bone cutters on the market from the small \$5 hand machine to the large power cutter. Illustrated circulars can be had for the asking.

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