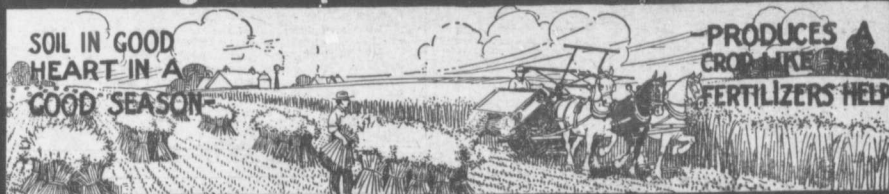


Heavier yields per acre with larger profits-



It Pays to Feed the Soil

The soil is a vast reservoir of plant-food, but most of it is not immediately available for plants. Only to the extent that this supply is rendered available can profitable crops be grown. Good cultivation, and the action of plant and soil acids, increases the yield by increasing the amount of plant-food which the crops can obtain. Manures and fertilizers add to this amount.

Good cultivation and the use of fertilizers are particularly important this year. It is the will of the farmers of Ontario that every acre of land shall produce the maximum yield this coming season that circumstances permit.

Lime and Humus—the Winning Combination

If your land has been well cultivated and is well drained but the yields have not been satisfactory, it will pay you to study the lime and humus question carefully.

Why Lime is Essential

- (1) It is a soil corrective; many soils have become acid because the lime has been leached away. Crops will not thrive in an acid soil.
- (2) It stimulates plant growth by acting on the compounds in the soil containing plant-food, making these more available for plant use.
- (3) It acts upon the texture of heavy soils, making them less sticky and producing a better condition of tilth.
- (4) It produces a condition of soil under which beneficial bacteria thrive best.
- (5) It hastens decay of organic matter, thus liberating humus and nitrogen.

Sufficient lime for ordinary soils may be supplied by applying from 1 to 2 tons of ground limestone rock per acre or $\frac{1}{2}$ to 1 ton of burned lime per acre. Do not use freshly burned lime on light soils or on a growing crop.

Humus is Absolutely Necessary

- (1) Humus is only another name for decayed vegetable matter in the soil.
- (2) It is practically the sole source of nitrogen for the plant, other than that gathered by nitrogen-fixing bacteria, or whatever is added in a mineral fertilizer.
- (3) It furnishes acids which aid in bringing into solution the potash and phosphoric acid in the soil.
- (4) It greatly increases the water holding capacity of the soil.

(5) It very much improves the physical condition of the soil.

Humus is Best Supplied

By (a) farm-yard manure, (b) ploughing down clover sod, (c) ploughing down green crops.

Farm-yard Manure supplies the most-needed fertilizing elements—nitrogen, phosphorus and potash—as well as humus. These are supplied in varying amounts, however, and are not always in the proportions required to ensure the biggest yields of different crops. That is why it is often best to use both farm-yard manure and commercial fertilizer.

Ploughing Down Clover Sod is a decidedly cheap way to supply humus. It usually pays best to take off but one crop and plough the sod. Then, too, bacteria which go with clover, gather nitrogen from the air and store it within the plant—in the roots as well as in the stem and leaves. Thus, this most costly of plant-foods (nitrogen) is thrown into the bargain as it were. It is one of the few chances to get something for nothing.

Green crops of any kind, ploughed under, assist in producing humus and in increasing necessary bacterial action.

Commercial Fertilizers Increase Crops

All of the foregoing practices are highly important, but they are not always sufficient to return to the soil the food elements taken out by the crops. Commercial fertilizers used in conjunction with farm-yard manure will usually give best results. Nitrogen, Phosphoric Acid and Potash are the food elements supplied by these commercial fertilizers. It is always wise when purchasing these to insist upon an analysis showing the available quantities of these plant-food elements. Study the guaranteed com-

position that must be printed on each bag of fertilizer sold. Information will be sent upon request to the Department of Agriculture which will enable you to make a satisfactory comparison of different analyses.

What Does My Soil Need?

That is the question each man must ask himself in studying this fertilizer question. The needs of different soils vary according to the crops grown in the past, the manure previously applied and the character and origin of the soil.

First: Send a representative sample of your soil to the Department of Chemistry, Ontario Agricultural College, Guelph. Give information regarding subsoil drainage, the crops that have been grown and the crop you expect to grow this year—and what manure has been applied for the past three years. An examination will be made and as much information given you as possible.

Second: There is no doubt that commercial fertilizers have an important place in Ontario farming when used as a supplement to farm-yard manure and good cultivation. In order that you may note the results of applications, always leave a strip through the field unfertilized so that the effect of the fertilizers may be observed.

For full particulars regarding any phase of the fertilizer question write the Office of the Commissioner of Agriculture, Parliament Buildings, Toronto. Send for Bulletin 223, on "Fertilizers," and Bulletin 238, "Lime and its Uses in Agriculture."

Ontario Department of Agriculture

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Minister of Agriculture

DR. C. C. CREELMAN,

Commissioner of Agriculture



ONTARIO

THIS THIN CROP
DOES NOT PAY
PRODUCTION COSTS



PROPER METHODS
OF FERTILIZING WOULD
INCREASE PROFITS

-can be obtained when soil is properly fertilized