Before presenting the results of our experiments to date, brief mention may be made of the chief reasons why a systematic rotation of crops is more profitable than long-continued growing of the same, or similar crops, on the same soil.

1. Because different plants have different manurial requirements.
2. Because plants vary in their power to abstract certain foods from the soil.
3. Because all plants do not feed to the same depth in the soil.
4. Because all plants are not alike in the residues they leave behind.
5. Because a proper rotation aids in the conservation of soil moisture.
6. Because some plants tend to produce better tilth than others.
7. Because certain weeds may be more effectively controlled.
8. Because different plants vary in their resistance power to bacterial and fungous diseases and to insect enemies.
9. Because the employment of a variety of crops distributes labour requirements more evenly over the season.
10. Because it practically insures the farmer against complete loss of a season's harvest.

The line of farming engaged in must, however, determine to a great extent the kind and relative amounts of crops that shall be grown, and may, in some cases, prevent following to the letter the rotation that would provide the largest returns. In any case it may be said that a good rotation will include (1) meadow or pasture, (2) roots, corn or other hoed crop, and (3) some cereal crop. The results of our experiments go to show that for greatest profits these crops should follow each other in the order named.

The following rotations have been devised to meet different requirements. One or the other of them is likely to be found suitable for conditions that obtain on the average live stock farm in Eastern Ontario and Quebec.

ROTATION 'A' (FIVE YEARS' DURATION).

First year.—Hoed crops. When corn is the hoed crop used, manure is applied in spring at rate of 15 tons per acre and shallow ploughed shortly before planting time, turning under clover and manure. After the hoed crop is harvested, land is shallow ploughed or cultivated.

Second year.—Grain. Seeded down with 8 pounds red clover, 2 pounds alsike and 10 pounds timothy per acre.

Third year.—Clover hay. Two crops expected. Top dressed in fall with manure at rate of 15 tons per acre.

Fourth year.—Timothy hay. Field ploughed in August, top worked and ribbed up in October.

Fifth year.—Grain. Seeded down with 10 pounds red clover, which is allowed to grow to be turned under following spring when the hoed crop is corn.

This rotation has proven an excellent one here. When carefully followed, and when cultural operations were well performed, weeds have been kept under fair control, and crop yields have been maintained. One-fifth of the land is in hoed crop, two-fifths in grain, one-fifth in clover hay and one-fifth in timothy hay or pasture.

It supplies a relatively larger proportion of grain to roots and hay than the ordinary three- or four-course rotation, and for that reason would be preferable where considerable grain is called for.

ROTATION 'B' (FIVE YEARS' DURATION).

First year.—Hoed crop. When corn is the hoed crop used, manure is applied in spring at rate of 15 tons per acre, and shallow ploughed shortly before planting time, turning under both clover and manure.