

particularly a legume, in soils deficient in humus. An outstanding example is the strikingly increased growth of a non-leguminous crop that takes place in a sandy soil after the ploughing-under of a leguminous crop (lupins, &c.).

In districts of more or less plenteous rainfall the keeping of the soil on exposed positions and porous open soils as far as possible covered the year round with a crop of some kind, grass or otherwise, makes for economy of soil-fertility. Over the greater portion of the country nitrates are being formed all the time, and the growth maintained takes up these nitrates, and thereby prevents them to a large extent from being leached from the soil.

The practice of thorough and timely cultivation, consistent with the availability of labour and other conditions, involves elements of economy that are most important, particularly in districts of non-plenteous rainfall. The conservation of moisture, the checking of weed-growth, and in general the promotion of better growth of crops are the principal objects of cultivation. During a prolonged dry spell surprising effects are sometimes produced by a single harrowing of a young crop of wheat, maize, or turnips. The harrowing promotes the formation of a "dust mulch" on the ground surface, thereby checking evaporation, and so conserving moisture for use by the crop. Thorough and timely cultivation also makes for economy in that it materially assists in making the full use of manures, which cost money to the farmer.

There are many economies in connection with the selection, use, and care of implements on a farm. The suitability as regards weight and draught to the class of land, to the size of fields or farm, and to the power available, and as regards effective cultivation for the class of land and the system of farming, is a determining factor in the choice of cultural implements particularly. In the realm of farm machinery generally there are many improvements that make for economy in production, including that most important factor, labour, and in the effective utilization of staple farm crops.

There is also the important factor of employing implements—and employing them effectively—that are suited to the climate. Implements that are designed to some extent for use in the preparing of the land so that moisture will be conserved, in districts where such conservation is highly desirable, are specially recommended. In an article on cultivation, by the writer, published in the *Journal* for January last, a plea was made for more adaptive methods in connection with the arable farming of this country. It was claimed that there should be employed implements and methods that are suited to the varying conditions of climate and soil of New Zealand.