Marl has been of interest to the state of Michigan for ten years. This interest was developed in the first place by the deficiency of lime in an unbelievably large percentage of the soil in the state. There is hardly a farm in the state that does not need some lime in order to correct the acid condition of the soil. The dairy department of the College of Agriculture has been preaching and urging the need and value of feeds high in lime. Following this up, the crops department has developed a vast acreage of alfalfa in the state. Alfalfa will not grow in acid soil, and the soils department has been urging the liming of the soil to take care of the situation.

In Michigan, limestone has not been well distributed by nature. It occurs in the corners of the state, and therefore it costs the farmers, because of the freight hauls, from $1.80 to $5.40 per ton, f.o.b. the nearest railway station. The general price of marl is $1.00 per yard, and experiments over a period of years have shown that 1 1/4 yards of 85% marl, or better, is equivalent to 1 ton of the best grade of ground limestone. Hence, the question of whether the individual should use marl or ground limestone is solvable by very simple arithmetic.

Marl is a mixture of calcium carbonate and clay, but the marls of glaciated regions, such as Michigan, are predominantly calcium carbonate. This calcium carbonate has been precipitated from ground water. The original source of the ground water is, of course, rainfall. Falling rain dissolves some carbon dioxide from the air and before it penetrates the subsoil it picks up considerable carbon dioxide from the decomposition products of the humus formed by vegetation. In uncultivated areas the concentration of dissolved carbon dioxide may be very high, due to the presence of an organic mulch on the surface.

Ground water carrying carbon dioxide in solution comes in contact with limestone pebbles in the subsoil and dissolves calcium carbonate by converting it to the soluble bicarbonate. In a short time the ground water becomes saturated. Eventually, the ground water reaches the surface either in springs or by subsurface drainage into...