

ABSTRACTS:

NEW LIFE FOR THE LAND

MOST "worn-out" farms are not really worn out at all. They have simply been farmed so badly that the fertility of their soils has become unavailable to plants. Much of the fertility is still there but the crops cannot touch it. Unless the land is eroded down to rock or hard-pan, most such farms if they have good sub-soils can be brought back into good production. It is possible, for instance, to find farms once called "worn out" which, by the expenditure of moderate sums of money and the use of common sense and knowledge, can be brought to a higher productivity than they ever had even as virgin soils.

Much land has been farmed only eight or nine inches deep for a hundred years or more. In many cases this eight-to-nine-inch layer has been eroded away. In other cases it has been completely depleted through leaching and failure to replenish its fertility, either by commercial fertilizer or through the natural mineral fertility which lies deeper down in the sub-soils.

Here the deep-rooted grasses and legumes are of immense importance. They tap that deep natural fertility and bring it to the surface in the form of roots, stems and leaves.

These deep-rooted legumes and grasses are the cheapest form of fertilizer, cheaper even than farmyard manure because the labour costs involved are lower. Not only do they bring the sub-soil's natural mineral fertility to the surface (together with leached-down commercial fertilizers); they also create great quantities of organic material in the form of roots, (and when ploughed in) stems and leaves. The legumes too can create out of the air as much as 400 pounds of nitrogen to the acre. And they tend to create better drainage and to check erosion. In most cases these grasses and legumes can be grown on worn-out land by the expenditure of reasonable sums for lime and commercial fertilizer as a "starter."

A good well-drained soil is full of organic material taking its part in the vital cycle of birth, growth, death, decay and re-birth. In such soil there is a whole universe of life at work—of moulds, fungi, worms, bacteria and acids working to convert the inert, inorganic minerals into forms in which they are available to plant life.

At one time it was thought by some that commercial fertilizer was all that was necessary in order to farm profitably and to get big yields. Today not even the commercial-fertilizer manufacturers would support such a belief. We have had to learn the hard way that a commercial fertilizer, used exclusively, will not in the long run produce profits and fertility. Worse, it can actually destroy the fertility of the land and create serious problems of erosion.

When the farmer ignores the element of organic material, all the processes by which mineral fertility becomes available are disrupted, and soil acquires a cement-like quality, refusing to drain in flat land and to absorb moisture on rolling land. As the organic content declines, so do the living elements of fungi, moulds, earthworms and bacteria. Land can reach a point at which Rs. 10 spent on commercial fertilizer will not produce Re. 1 worth of effect, because without moisture and the natural processes of living soil, the fertilizer is simply not available to crops. Commercial fertilizer is of the greatest benefit in providing highly-available mineral fertility, in replacing the minerals carried off in the form of fruits, grain, meat, milk and bone, and in restarting the natural processes of fertility. But it is of maximum value only when used in conjunction with abundant organic material moisture, good drainage and those processes which take place in a truly living soil.