



# Your Living Environment

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## SOIL USE AND ABUSE

Ambassador College, Bricket Wood, is currently negotiating for the use of some 250 acres of land on the former Handley Page airfield. If successful the Agriculture Department will have the tremendous opportunity to bring this land into full production.

But how can it be done? Should we plough, disc-harrow, rotate -- or not even cultivate at all? Is it wrong, as some have suggested, to grow grain? Should we mulch and if so, how?

What about the right method of building soil fertility? Should we rely on compost, on dung, lime, slag, superphosphate, chemical nitrogenous fertilizers, or green manure crops? How about organic fertilizers such as Super-gro, Acta-bacta, Verta-life, etc. -- or no fertilizers at all?

What approach to the complex problem of soil management and soil fertility is in harmony with the laws of God? Is there in fact any way to rejuvenate soils over-night -- to change poor soils into rich ones in a period of a few months?

To the academic theoretician all these questions are no more than mildly interesting, but if you have land of your own they become a very live issue! Especially so if you desire to obey God's laws relative to environmental management! These questions then become vitally important -- both for now and the world tomorrow!

This issue of Your Living Environment completes two years of reporting on Bricket Wood Agricultural Research and many of the above questions have been covered. However, we now want to offer further insight into soil management, according to God's laws.

Great confusion exists on the problems of right soil management (even among our own people). Today, fads, panaceas and

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wacky ideas seem to increase at an exponential rate. Some, in an effort to do the right thing, swing from one miracle organic fertilizer to another, from one system of cultivation to another and from one system of soil management to another.

### The Importance of Soil Management

Few people, even among those actually working the land have ever fully comprehended the vital importance of correct soil management, relative to either their own or mankind's survival.

"...man and all that breathes are fed through a tenuous film of rock particles, water and organic remains -- indispensable, readily subject to injury and if rudely handled, impermanent.

"Soil is living rock and the fundamental problem in farming ...is to handle soil not as an aggregation of inert rock materials, but as the substance of life" (The Care Of The Earth, p.21, Russell Lord, 1962).

"Soil is a kind of placenta that enables living things to feed on the earth" (Man And The Earth, N.S. Shaler, 1915).

These are men that do understand something of the vital nature of soil management, but now let us test some of the ideas of other people against the guidelines of the Bible.

### Cultivation and Tillage

Some have assumed that Ambassador College is against soil cultivation. After all, have we not written articles decrying its effects on soil fertility, texture and productivity? But tillage handled correctly is not wrong and will not be wrong in the world tomorrow. Many scriptures indicate this. But irrefutable evidence shows that excessive tillage is severely damaging.

"Cultivation tends to reduce the level of fertility of most soils as measured by the crop-producing power. ...directly ploughing and cultivation operations begin great losses of nitrogen set in" (Scientific Agriculture Vol.28 p.30, January 1948, Atkinson & Wright).

But the Bible infers that cultivation is a necessary part of man's existence. The answer to this apparent anomaly is simple: cultivation is fine, and indeed necessary to produce food for mankind, but its use should be limited in depth, severity and frequency. In most cases superficial tillage, with a mixing action, tends to be less harmful than the old deep inversion methods. (It should be noted that the Biblical references to "ploughing" do not refer to the mouldboard type plough. This is a modern invention. Strong's Exhaustive Concordance gives the meaning as "scratch".)

### Grain And Cereal Crops

Another misconception is that Ambassador College does not "believe" in growing cereal grains. But we have grown grain and intend doing so in the future. What is more, the Bible agrees with this practice: In Deut.8:7-9, God tells the Israelites that He has brought them to a good land, a land of wheat, barley, etc. Amos 9:13 refers to the ploughman over-taking the reaper in the world tomorrow.

The problem of grain production is that it annually necessitates a great deal of soil cultivation. This is especially true of the coarse feed-grains, (such as maize and grain sorghum) and the other clean-cultivated crops such as soybeans, tic beans and potatoes. Tillage exposes the soil to the elements for long periods of time and fertility deteriorates rapidly. This fertility and that lost through crop production can obviously be given back in various ways. But much of this problem could be avoided. How? By farmers eliminating surplus grain-production which now goes for cheap animal feed!

### The Fertilizer Problem

Spectacular and immediate results quickly eroded any doubts about chemical fertilizers and by the late 1950's they had near universal acceptance and acclaim! But during the last ten years their long-term detrimental effects become too obvious to ignore.

Disillusioned, farmers began searching for ways to rebuild soil fertility. To their rescue came a new army of salesmen -- from the "organic" cult. They claimed the ability to provide immediate solutions -- no more headaches of over-worked, compacted soil, poor yields, diseases crops and insect epidemics!

Products such as Fertrell, Acta-Bacta, Q-R Activator, Terra Tonic, etc, have had great appeal because man is readily convinced that soil fertility comes from a bag or a bottle. Why? Because these materials can be easily sprinkled on the soil, giving rapid results. They do benefit the soil -- but lasting soil fertility has not and never will come from a bag or a bottle. It comes from CAREFUL OBEDIENCE TO THE LAWS OF GOD AND INTELLIGENT AND PATIENT STEWARDSHIP OF THE LAND!

As a professor of horticulture pointed out in 1907: "The problem of maintaining or restoring the fertility of farm soils is much broader than that of merely adding plant food to them.

"Most worn-out soils are in special need of humus...In most cases the quickest and easiest way, to begin with, is to grow leguminous crops for green manures. But green-manuring will be made more effective and certainly more

remunerative if it can be associated with some form of stock husbandry, so that the crops may be fed or pastured ...and the manure returned to the soil. Stock-feeding is the key to the most economical maintenance of soil fertility in general farming. Diversified farming is one of the strongest props of soil fertility" (Soils, p.280,316,344 & 345, S.W. Fletcher, 1907, Archibald, Constable & Co.Ltd., London).

A modern authority corroborates Mr. Fletcher: "The primary method of increasing the fertility of all land ...involves the creation of humus by means of the life-promoting qualities of compost, farmyard manure and other organic fertilizers; by green-manuring, ...by the controlled grazing of livestock, by methods of working the land whereby the circulation of air, sunlight, water and minerals is promoted; by planting trees and perennial herbs, whose roots aerate the soil and bring up minerals from the subsoil" (The Inviolable Hills, p.208, Robert A. de J. Hart, 1968).

This does not conflict with the Bible. Nowhere does God say there is any quick way to change abused, degenerate soil into fertile, rich productivity overnight. Success is a result of patient continuance in God's law and a steady growth in knowledge and understanding. This point cannot be over-emphasized!

Sweeping changes may be necessary. Continual re-education must take place in order that a careful programme of constructive soil management can be developed and put into action.

### The Right System of Agriculture

Any soil management programme developed in harmony with the laws of God must revolve around the limitations imposed by the Sabbatical Year, (Lev. 25). As we explained in an earlier issue of this Research News, (Why -- The Land Sabbath? Vol.I No. 9), this law, if obeyed, has far-reaching implications both for the Christian now and for the entire world in the near future.

Though space does not permit detailed explanation here, the Land-Sabbath uses the sheer power of economics to encourage farmers to adopt a diversified programme; based on livestock and the production of meat, milk, eggs, wool, etc.

It encourages grassland farming (the feeding and fattening of livestock on grass), rather than excessive dependence on cereal grains as animal feed. It discourages an excessive dependence on crops that require annual sowing and harvesting. And it encourages small vegetable gardens, diversified and intensively managed.

Interestingly enough, by encouraging just such a programme, God induces farmers to adopt the ideal fertility-building methods. These (as it was pointed out earlier) are based on livestock,

dung, green-manures, minimal cultivations and legumes, plus some mulching and composting for the small vegetable and fruit areas.

Lime, basic slag, rock phosphate and other such materials may be necessary at certain times, especially in the early stages of fertility building. But if these have to be relied on indefinitely, the particular system needs to be re-examined.

### God's Agricultural Instruction

An intriguing aspect of the Bible is that it is not detailed or specific in its instructions to farmers. There is no plan laid out telling man how many acres of wheat to grow, how many cows to have, how many sheep, what rotation to follow, what stocking rate to choose, or even what cultivation tools to use, etc.

God leaves all these decisions up to the individual land-owner to decide, based on his particular circumstances. But once we understand the Land-Sabbath, we have very little choice about the overall agricultural system that we would be wise to adopt. (Notice that God preserves our right of free-choice.)

But it is in our own interest to adopt that system which fits the overall pattern outlined above. Otherwise, every seventh year will be one of comparative financial hardship, (not to mention other more severe penalties). This will be especially true in the world tomorrow when whole nations will be keeping the Sabbatical Year at the same time (we again urge you to consult the earlier issue on this subject).

### Observing The Land-Sabbath

In three year's time Ambassador College will again be observing the Sabbatical Year on its Bricket Wood campus. This will include many additional acres for the first time and we must begin now to plan for this observance.

Every one of you who reads this article is coming toward his or her Land-Sabbath too, as are many others who perhaps won't get the chance to study the available information beforehand.

Maybe some will be like the man who, in all sincerity left 600 acres lie fallow during his Sabbatical Year! He and others were under the impression that this was a correct and diligent observance. Diligent it was, but correct? No! Neither was it very wise. Can you imagine the impression it created on his neighbours? 600 acres under fallow when the land all up and down the country was under green crops.

How about you? Will you be prepared when the time comes? Will you fear the approach of your Sabbatical Year and look on it as an imposition? No need to! You can confidently look forward to it as a great blessing, along with all the rest of God's laws. That is if you begin tailoring your soil management correctly -- now! If we can help, let us know.