AMBASSADOR COLLEGE UNITED KINGDOM

Your Living Environment

Vol. II No. 4 April, 1971

IS THIS THE ORCHARD OF THE FUTURE?

"Forty-eight thousand apple trees to the acre is about as far removed from the traditional image of the English orchard as it is possible to imagine.

"That countryside showpiece of mature trees groaning with the yellow, red and green fruits in autumn and a mass of blossom in the spring is being given *a knockout* blow by the orcharding experts of Britain and *the world's largest* cider manufacturers.

"In their concept of the orchard of the future, the nearest parallel will be the rows of tomato plants of the big growers.

"Apple trees will be *a single yard-high stem,* with growth artificially inhibited and carrying a few pounds of apples close to the stem. Planted perhaps *a foot or two apart,* they will not need the traditional shaking to collect the fruit.

"A machine will crop the rows, cutting the lot, stem and all, a few inches from the ground and collect the apples as casually as the pea-picking machines for the frozen food factories.

"At the experimental orchards of H. P. Bulmer Ltd., just a mile outside Hereford, a section is planted at the 48,000 trees to the acre density. It compares dramatically with acres planted at the present 'intensive' level of *600* to the acre." (*Daily Telegraph,* 6/11/70)

Does this fit your concept of the orchard of the future? Will the tree that provides the apple-a-day for your children twenty years from now be only a single stem, three feet high? Man's desire to manipulate the environment to his own greedy ends knows no limit.

The Bricket Wood Agriculture and Environmental Research Programme recently launched its own experiment in fruit production. And as you might have guessed, our approach is the exact opposite to that described above. This edition of *Your Living Environment* outlines our experiment for the reader. It will also explain *why* our approach differs so radically, both from that which you have seen quoted from *The Daily Telegraph* and that of the average orchard.

A Step Towards The Ideal System

Our Research Programme has been given the task of providing answers, both on paper and in practice, to the world's food-production problems. After four years of study, we feel that the system of the future is beginning to take shape, in our minds and now on the campus here in England.

Understanding the full implications of the land-sabbath law (as mentioned in detail in an earlier edition of this *Research News*) appears to be the vital key.

Work in fruit production at Bricket Wood is yet another exciting experimental step towards a model-farm environment for "The World Tomorrow".

What is that ideal model? Basically it consists of small family farms, producing a diversified managed abundance!! This is neither as idealistic or uneconomic as you might imagine. Even to-day a few tiny communities in central Switzerland parallel this ideal.

The average farm in these Swiss communities is about 20 acres. On this small area, the family manages to produce an amazing amount of beef, milk, cheese, butter, eggs, poultry, vegetables, honey, a wide range of fruit and perhaps some wool as well.

Since the unit is small and family operated, little need exists for sophisticated machinery. Every inch of soil is well utilized. Fence-rows, for

AMBASSADOR COLLEGE (U.K.) LTD.

example, which in England would normally be allowed to run to weeds, produce a surfeit of soft-fruit and perennial vegetables. Apple and pear trees in the cattle pastures provide fruit, plus shade and shelter for the cattle. And the cattle, in turn, provide fertilizer for next year's crops.

Forest trees, such as oak and beech, line the borders and fill the waste corners, providing fuel and lumber. Nothing is left to chance. Every square foot of soil and every plant has its purpose and a place in the overall system. The entire unit exudes an air of beauty, lushness and abundance.

We feel that Bricket Wood's new experiment in fruit production is a major step forward. And it emulates many of the Swiss good points.

The Ambassador Way

Did you notice in the opening quote that *"ARTIFICIAL GROWTH INHIBITORS"* are being used to produce a single-stemmed tree only three feet tall? This typifies so much of what man chooses to label *scientific "progress"*. For twenty-five years, commercial and private growers have used elaborate grafting systems and special dwarfing rootstocks to produce ever smaller trees.

It is not exaggerating to say that the average apple tree now being planted will seldom grow to more than ten feet. These are known as *"dwarfs"* among orchardists and the first branch may start only two feet from the ground. Not quite like the "standard" fruit trees that were common even a decade or two ago, are they? And not like the trees recently planted at Ambassador College.

Yes, we are taking steps in the *opposite* direction to this trend toward *"dwarfism"!* To ensure that our trees will be *tall* and *wide,* we have used *"standards"* and a method of training that allows the trees to attain their maximum size (either on their own rootstock, or if not available, on a rootstock as near the parent tree-type as possible). These trees have since been carefully pruned so that the lowest branches will still be high enough to escape the depredations of grazing cattle.

The Daily Telegraph also mentioned that the average density in modern "intensive" orchards is *600* trees per acre — as opposed to *48,000* in the Bulmer experimental orchard! But Ambassador College has not planted its trees at *600* to the acre. No! Not even 60 per acre! Would you believe — *TWO TREES* per acre?

That's right! And it means that the 150 or so trees planted this winter are lightly sprinkled over some 75 acres of our present farm. Nearly every cattle pasture adjacent to the campus now has a few trees of some species — be they apple, cherry, pear, plum, or peach. At the time of writing, every young tree has been mulched with farmyard manure and straw. Special guards are being erected to protect each young tree from cattle and rabbits.

But our experiment does not stop there. Raspberries, blackberries and gooseberries have been planted beside many of our fences. The rails will provide support for these plants, where necessary. A surfeit of soft-fruit should attract many more birds and other wildlife.

Young grapevines have been included in the project, though their eventual success may be limited by the English climate. Even rhubarb and asparagus crowns have been planted in protected areas of certain fence-lines.

As each of these species begins to blossom and fruit, the College Farm should acquire an air of lushness, beauty and abundance — so fitting to God's total way of life!

A Drawback In Pasture Management?

An old objection that will come quickly to mind is the one of operating machinery in amongst the trees! This problem cannot be eliminated except by abondoning the system. The trees have been laid out in a way that will cause minimal difficulties. It should also be remembered that we have that kind of machinery in a pasture for no more than *one week* per year. And we have all the *benefits* for 52 weeks per year!

Shortage of land is a common cry among farmers today, but this system allows every farm the benefits of its own orchard without setting *any* land aside for it. Grass grows right up to the base of our kind of fruit tree and with land at £300 per acre — who wouldn't manoeuvre around two trees per acre?

Insects And Disease Problems

One advantage from spreading the trees and vines so thinly is that it minimizes the risk of insect and disease attack. It is well-known that monoculture *encourages* predatory insects and disease. (Vast acreages of barley, or wheat are an open invitation to epidemics of cereal diseases such as stem-rust, leaf-spot etc.) Huge peach orchards are usually accompanied by equally huge populations of *peach-borers.* High density apple orchards usually have an equally high density of codling moths and red spidermites.

Spreading our trees around will enable us to avoid most of the danger so inherent in the typical monoculture system. By making it easier for natural enemies to control codling moths, for example, we do away with any need for chemical pesticides!

Variety Creates Interest And Beauty

Other advantages of the diversified approach are less tangible than the first, but equally vital. For several decades specialized farming has been destroying the countryside's interest and beauty. Hedgerows and stately trees disappear before advancing bulldozers and whining power-saws. Even small orchards are grubbed from existence in deference to larger, more "efficient" and more monotonous fruit plantations. Once beautiful green pastures are replaced by miles of barren, drab, dull-brown cultivation.

Near-sterile prairies of barley, wheat, potatoes, or sugarbeet have swallowed up the former peaceful, diversified pattern of animal-centred mixed farming. No longer are fine animals the focal point of Britain's agriculture and the British landscape. They are rapidly being replaced by computer-selected mongrels which are pushed into barns, feed-lots and battery-cages.

Though it may be in the interest of the consumer that he does not see modern animal production and reproduction — monotonous landscape is a principal by-product of today's system.

Not so at Bricket Wood! We do have pastures, but more than that, they don't just consist of grass and unpainted rails. Young cherry and apple trees now break the uninviting square lines of buildings. The stark relief of fences will soon be mellowed by soft-fruit vines entwining themselves on the rails. Rhubarb and asparagus are now turning waste corners into lush productive assets. Pear, plum and peach trees will erase the sterile look of open fields. Red, roan and white shorthorn cows with little calves will soon be grazing among young blossoming trees.

Ambassador College agriculture is transforming the farm-landscape of the future from monotony to interest, from dullness to beauty and from sterile hybridization to an Eden-like garden!