EDITORIAL

Wood for the Burning

Time was when the only energy source available to man was wood, burned to provide heat. True, the water wheel comes to us from the time of the Babylonian Empire, the ancient Chinese developed the windmill and, in the sailing ship, a single use of wind power has, in a very real sense, shaped the history of the world. Nevertheless, it is estimated that in 1800 more than 90% of man's energy consumption came from wood. Although the advantages of coal were already known, it was only with the development of underground mining in Britain in the 18th century that coal production soared and with it came the Industrial Revolution. Wood fell from its dominant position and its use as fuel has continued to decline, so that today, Swedish farmers with more ready cash than foresight are replacing their wood-fired stoves and furnaces with oil-fired boilers and allowing the waste wood of their own forests around them to rot on the ground. It is then, perhaps surprising to learn that an estimated 2,300 million tonnes of wood is consumed as fuel, every year. The tragedy is that this is mostly in very poor countries, where the disappearance of these forests, so vital for the survival of the inhabitants, is occurring at an alarming rate and the daily search for fuel is becoming almost as important and as time-consuming as the search for food.

It is in the developed countries that the idea of growing trees in order to provide an energy source is gaining most prominence. Still at an early stage of development, these schemes aim to achieve the maximum possible rate of dry matter production on the site. They are a far cry from conventional forestry but they are worthy of the attention of foresters. They represent a serious effort to utilise solar energy in a manner which has the potential to contribute significantly to our energy supplies. However, it is vitally important that in the production of energy forests inputs be kept to a minimum. There is little point in achieving an energy yield of 125,000kWh* per hectare per annum if the energy inputs in terms of fertilisers, harvesting, transport, etc. amount to 150,000kWh. The trouble is, that the sums involved here are not easy and call for some rather sophisticated energy accounting. Unless *all* the inputs are taken into account, and this can be very difficult, the calculated benefits may be illusory and the entire operation a waste of time . . . . and energy.

* 1kg plant dry matter has an energy content of 5kWh approx. The corresponding figure for petroleum is slightly less than 12kWh per kg.