

Chernobyl, the Farm and the Bomb

In a few short weeks, the accident at the nuclear reactor in the Ukraine has made everyone very apprehensive about the risks of nuclear technology. Suddenly it is clear that all of us are vulnerable when radioactive pollution is released and then spread by the wind. Right across the country, worried parents are demanding to know how their children might be affected, and how best to try and protect them. Can they really be expected to believe that there is absolutely no danger, but you musn't drink the rainwater (unless it has been diluted)? And that food imports from Italy or East Germany are completely safe, but those from Bulgaria or Yugoslavia are not? When the 'answers' to their urgent questions run the gamut from the blandest of misinformation to cheap jibes about the Russians - would we actually have been any better organised? - it is hardly surprising that the public are unwilling to believe anything they are told.

So what we are experiencing is an accidental revelation of what we now see has been a hazard all along. This of course makes us think very hard indeed about what else might be hanging over our heads, and about where we should look for reliable, unbiased information and advice. Farming is at the centre of this situation, not only because it goes on over much of our countryside, but also because certain of the harmful radioactive substances from accidental and intentional discharges into the environment can accumulate in herbage, farm animals and crops. Farmers are clearly in the front line, both as producers of the nation's food and as custodians of the land for future generations. This gives them the right to receive clear, unpoliticised explanations from responsible scientific sources.

We all receive small quantities of nuclear radiation from the sun, and from certain minerals in the Earth's crust. The risk to health of this natural 'background dose' is extremely slight, and is generally regarded as acceptable, along with other inescapable but remote hazards that are intrinsic to being alive. Where we have a choice; however, as for example with nuclear power stations, this does not mean that we only have to worry about accidental large doses that cause radiation sickness. Most scientists believe that there is no 'safe level', below which there is no damage. Therefore, small increases in the radiation dose to the population mean that in a decade or two we can expect that some extra people will die early from cancer. It might be very few, and we wouldn't know who they were. Because it is difficult to study the nationwide effects of long-term, low doses, the oversimplification is often used of drawing 'warning' and 'action' lines at various levels above the average background values.

Confusion is also caused because spokespersons and politicians often overlook the internal radiation dose that people get when they inhale radioactive dust, and drink or eat contaminated food. Plutonium, which at the time of writing has just reached Sweden from Chernobyl, and which has been washed up around the Cumbrian and Scottish coasts from discharges to the Irish Sea from Windscale, is a very toxic substance that gets into the lungs in the form of dust. More worrying still are Iodine-131 and Caesium-137, which are absorbed and accumulated in plant and animal tissues, getting into milk, meat and green crops. In this way, radioactive substances which have been greatly diluted can become concentrated within the human body, rather as happens with lead. Iodine-131 accumulates in the thyroid gland, but its radioactivity diminishes rapidly within a few weeks.

Caesium-137, however, continues to emit radiation for centuries, and builds up in the muscles.

Readings taken in Britain since the weekend of May 3/4 apparently show increased Iodine-131 and Caesium-137, but a lot of fluctuation from place to place. This is presumably because of local variation in rainfall and in the course taken by the radioactive cloud. What advice are we receiving about food? The Scottish Office, for example, continues to maintain that drinking fresh milk is safe, but Professor Murdoch Baxter, Director of the Scottish Universities' Research and Reactor Centre has said that he would positively discourage people in Scotland from this at present. Farmers would be doing us all a service if they were to keep on asking for reliable information, and pressing for an independent advisory service on radioactive pollution.

The fallout from Chernobyl also reminds us of that other nuclear risk which we prefer not to think about. It shows that, whether we consider nuclear war to be likely, unlikely or very unlikely, the consequences of nuclear weapons explosions are too destructive, too widespread and too long-lasting for them to form part of a sane or useful defence strategy. Indeed, the threat to agriculture and food supplies was singled out as one of the most damaging results of a nuclear war, in the recently published 2-volume 'SCOPE' Report, prepared by 300 scientists from 30 countries for the International Council of Scientific Unions.

British farming has become a sophisticated and highly productive enterprise; but as a result is especially vulnerable to the breakdown of supplies of electricity and mains water, fuel, fertilisers, agrochemicals, animal food concentrates, seeds, etc. As well as this, agriculture world-wide would be threatened by the 'nuclear winter', a period in which the sun

itself would cease to shine on the crops, and severe winter conditions could occur in summer, because of the dense pall of smoke and dust in the atmosphere. The immediate destruction caused by the Bomb is so great as to paralyse many people's thinking; the SCOPE Report shows that starvation would be likely to claim still more lives in the long term. Nowhere would be free from a sharp increase in long-lived radioactive pollution, and disruption of the climate and loss of the farmer's supplies could mean that food production failed, even in countries far from any nuclear targets.

If you want to find out more about nuclear risks, you might like to contact 'Farmers for a Nuclear Free Future' (Lower Westcott Farm, Moretonhampstead, Devon). They have prepared thought-provoking publications and a video, because they found the official information so inadequate and out-of-date. Although a new publication 'Civil Defence and the Farmer' has been issued by MAFF, this ignores the nuclear winter, and suggests that farmstock should be protected from fallout for a few days or a fortnight. A more realistic appraisal of the real scale of a nuclear aftermath is provided by the transcript of the Scottish Nuclear Winter Conference (available from West House, Greenlaw, Berwickshire).

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