DNA committee has its critics

An international group of scientists involved in bacteriophage work is unhappy about the way in which the Recombinant DNA Molecule Program Advisory Committee is handling the problems of plasmid engineering, and a meeting of the committee planned for this month has been put off until December because of the concern which has been expressed about its last meeting at Woods Hole.

The group, which consists of 48 scientists who attended the recent Cold Spring Harbor bacteriophage meeting, has sent a petition to the National Institutes of Health (NIH), complaining that the Woods Hole guidelines on recombinant DNA represent a watering down of the recommendations made at the Asilomar conference earlier this year. The Asilomar conference, convened by Professor Paul Berg, was the first gathering of workers in the field to discuss the potential dangers of plasmid engineering, and a subsequent meeting of UK workers at Oxford broadly confirmed the working rules suggested at Asilomar.

In a letter to Dr Dewitt Stetten, Deputy Director for Science, Office of the Director, NIH, the Cold Spring Harbor people complain that a draft of the Woods Hole meeting called "Current Guidelines for Research on Recombinant DNA Molecules" appears "to lower substantially the safety standards set and accepted by the scientific community as represented at the meeting at Asilomar in February, 1975".

The letter "strongly requests" that the advisory committee considers at its postponed meeting the feelings of the group in three areas.

- They urge that the most hazardous experiments be curtailed until some experimental determination of the risks inherent in such procedures is made. They say, for instance, that the extent of containment possible with different vectors remains to be shown.
- They are concerned that any mammallian DNA (let alone animal viral DNA) can, by the present draft, be cloned under less than P3 containment, and they say that they are not persuaded that an untested vector designed for safety reasons is by itself an adequate safeguard for such experiments in an open laboratory. They add that "strong consideration should be given to limiting shotgun experiments of mammalian DNA to P4 containment until proven safety vectors are available".
- They feel that the composition of the committee should be broadened to include more representation from the areas of animal virology, plant pathology and genetics, and epidemiology; and also that the advisory committee should have much stronger representation from scientists not directly involved in cloning experiments. And taking a line which the committee will surely find hard to swallow, they think it advisable "to consider representation of the public at large".

One of the organisers of the petition, Richard N. Goldstein, of the Harvard Medical School, says the letter "reflects a deep concern" with the results of the Woods Hole meeting, and he believes it is "exceedingly important that the general scientific community be made aware of these developments".

- This week Dr Goldstein reported that the Woods Hole guidelines had been scrapped. According to Goldstein, Dr Betty Kutter, "a vocal critic of these guidelines and a member of the Recombinant DNA Molecule Committee, has been charged with the rewriting of these guidelines as a result of the pressure put on the committee by many dissatisfied scientists".

Trials for Laetrile

by Colin Norman, Washington

Ever since the days when medicine was largely the province of hucksters and snake oil merchants, people have been touting cures for cancer. Nowadays, such cures may be mentioned briefly in a racy tabloid newspaper, but they are usually ignored by self-respecting scientists, attract mercifully little following, and are quickly forgotten. But not so with one purported anti-cancer remedy called Laetrile.

Although declared contraband by the federal government, outlawed by several state governments and found to be utterly worthless in a number of tests carried out at several prestigious cancer research institutes, Laetrile is now being consumed by an estimated 20,000 people in the United States. It is available on the black market, or through clinics in Mexico and West Germany, to which desperate American cancer sufferers are flocking in droves. It owes its popularity in the United States to a vocal, and at times heated, campaign by a number of groups on the West Coast who are fighting to get legal restrictions on Laetrile lifted.

The bitter battle over Laetrile would have all the ingredients of a good thriller, if the subject matter were not so tragic. Research reports have been stolen and given wide publicity, an international smuggling ring has been broken up by federal agents, cancer researchers have been accused of deliberately suppressing information, numerous court fights have occurred, and right-wing political groups have been accusing the government of invading personal freedom. The matter has certainly caused a headache for the Food and Drug Administration and the National Cancer Institute, and a good deal of embarrassment for the Memorial Sloan–Kettering Cancer Center in New York.

Laetrile was apparently first used for cancer treatment in the 1920s by a California doctor called Ernest T. Krebs, Sr, but it was too toxic to be much use. A purified form was developed in 1951 by Krebs' son, E. T. Krebs, Jr, a biochemist, who claimed that the substance was safe for injection. More recently, Laetrile has been produced in a form which can be taken orally, and its use has skyrocketed.

There have been numerous anecdotal reports of cancer sufferers who have gone into remission after taking Laetrile, or who have at least experienced a cessation of pain and have died in relative peace. But there have been no formal, clinical trials to test the efficacy of the substance, and until recently there have been few animal trials to test Laetrile's purported anti-cancer activity. Results of two extensive animal trials will, however, be published later this month. They are unambiguously and crushingly negative.

Proponents of Laetrile have even suggested an elaborate mechanism to explain its alleged action. The substance, they suggest, is broken down inside cancer cells by the enzyme β-glucosidase, to release benzaldehyde and hydrogen cyanide in sufficient quantities to kill the malignant cells. Normal cells, they suggest, are protected because they contain the enzyme rhodanese which, in the presence of thiosulphate, converts hydrogen cyanide to the less toxic thiocynate. It is a neat mechanism which every cancer chemotherapist looks for—something which is entirely specific to cancer cells but non-toxic to normal cells. The trouble is, though, that there is not a shred of evidence so far to support it.

The campaign in support af Laetrile certainly has considerable popular appeal. A film developed for the pro-Laetrile forces, for example, begins with the following statement: "This year, 250,000 Americans will die from cancer ... this great human tragedy can be stopped now entirely on the basis of existing scientific knowledge". It goes on to note that "the history of science is the history of struggle