

cess before money is spent on research," says Mr Al H. Meyerhoff, one of the attorneys who have filed the suit on behalf of nineteen farmworkers and the California Agrarian Action Project.

"The increasing monopoly over agricultural production of large food-producing corporations is being facilitated by research and development work at public universities initially established, under the land grants colleges legislation, to help small farmers. We feel these institutions should not be contributing to the problems that these farmers face."

The university strongly denies charges that the results of its agricultural research programmes have been socially detrimental. In particular, according to university staff:

- although mechanisation has resulted in declining employment in some areas, this has been largely compensated for both by the introduction of new jobs in other areas, and by other employment opportunities brought about by general increases in agricultural productivity;

- rather than merely benefitting large corporate producers, the technological developments arising from university research have been of general benefit to the community, the advantages of increased productivity for example being passed on through lower food prices;

- and the university is also challenging whether it should have any particular responsibility for the social consequences of its research programmes, or whether this responsibility should not be shared by the whole community.

"The university's responsibility is to create new knowledge or information, to develop new ways to produce food as efficiently as possible, and to be aware of new developments, and so forth. But in terms of the conflict of social goals, that's not only *our* job, but the job of society, of the legislature." Professor Charles Hess, dean of the college of agricultural and environmental sciences, said in a recent interview.

Others at the university strongly support this view, although many admit that the automated machinery that they have developed has been made particularly attractive to local growers by the increasing strength and militant tactics of unionised farmworkers.

"Automatic lettuce harvesters, for example, developed at the university have been available for some time, but have not been widely taken up for a number of reasons, in particular cost. But I don't know how many more lettuce strikes we will have before something happens," says Dr William Chancellor, professor of agricultural engineering at the university of Cali-

fornia's Davis campus.

From the union's standpoint, increasing mechanisation is a direct threat to its bargaining capabilities. One tomato grower near Sacramento, the target of an unsuccessful UFW campaign in 1975, subsequently bought an electronic tomato sorter for \$200,000, and was able to reduce his work force from 100 to 28, thus getting rid of "all the troublemakers". As one university staff member has been quoted as saying, "the machine won't strike, it will work when the growers want it to work".

The farmworkers have already received considerable support in their fight against mechanisation from members of the state legislature. At the request of one state representative, for example, the state accounting office is already carrying out an audit of the university's research activities to see if it reveals any "improprieties".

But neither has the university been totally insensitive to its criticisms. In addition to publicising the social value of its research, the university points out that the amount of research into agricultural mechanisation is being decreased, with emphasis shifting, for example, to methods for improving the biological productivity of crops.

The university is also both carrying out research and offering retraining courses aimed at the problems faced by farmworkers who lose their jobs as a result of automation. "We have been accused about not caring about the problems that mechanisation-causes; but we are now looking at these too," says Dr Chancellor.

In responding to the charges made by the legal aid group, however, the university has denied that there is anything improper in the close links that it has established with private industry; claims that such links result in an "inordinate influence" on research policy are, it says, subjective assessments based on a particular political viewpoint.

Critics remain unconvinced. They blame the major food producers for the social problems of US agricultural workers—as well as the declining flavour of US food—and accuse the University of California (as well as universities playing similar roles in other states) of direct collaboration in this process.

"It belongs to society as a whole to decide what help people affected by agricultural developments should get, and how much. We should not be expected to do this on our own," says one university spokesman. "We believe that it is a travesty for the government to use tax money, in the form of research grants, to force people out of work and drive small family farmers off the land," says Mr. Meyerhoff. □

## Professional bodies lobby to protect US science budget

QUOTING a 25% drop in the proportion of the federal budget devoted to basic research between 1968 and 1978, 40 US scientific societies and higher education associations last week issued a joint statement supporting President Carter's bid for a significant increase in support for basic research in the fiscal year 1980.

The statement is critical of the administration's decision to request virtually no increase in funding for biomedical research through the National Institutes of Health, pointing out that this will mean a decrease of almost 50% in the number of new competitive research grants available.

Apart from this, however, the various organisations put their voices solidly behind President Carter's request for a 9% increase in basic research funding—even accepting that this will be barely sufficient to keep up with inflation—and urges Congress to do the same.

So far, the Congressional response to the budget request submitted in January has been relatively good. The Senate budget committee, for example, having taken a detailed look at the requested science budget, has recommended that it be accepted almost in full, although suggesting cuts in virtually all other areas of public spending.

But there may well be stormy weather ahead. The House of Representatives, for example, in authorising a budget for the National Science Foundation close to the \$1,000 million requested, accepted by 219 votes to 174 an amendment reducing funds for biological, behavioural and social sciences research (and aimed primarily at the last of these) by \$14 million; last year a comparable amendment was rejected 174 to 229.

Immediate cause for concern are imminent floor debates on broad budget resolutions in both the Senate and the House, with various proposals that could affect science funding. A further test will come when key appropriations subcommittees meet to decide on agency budgets later next month.

Keen to prevent a repeat of last year, when a substantial increase in funding for basic research requested by President Carter was cut back by Congressional committees to a level—apart from the NIH—scarcely above inflation, the research community has been busy putting its lobbying act together in Washington.

In issuing a joint statement, the

various higher education, scientific and technological societies said they were taking an "unprecedented step" in presenting to Congress a unified position on the needs of science. They expressed concern at "the lack of a congressional policy in science which would embrace the principles of stable, balanced and controlled investment in basic research".

At a press conference in Washington to coincide with the publication of the joint statement, Dr Derek Bok, president of Harvard University, said that there was no contradiction between President Carter's aims to achieve a balanced budget, and to increase the federal investment in basic research.

"These positions are inextricably related, for out of basic research, if history is any judge, will evolve industrial innovation and growth, more efficient and thus less costly uses of labour, energy and equipment, and better health and security for all," Dr Bok said.

Dr David Saxon, president of the University of California, pointed to the present energy crisis as a "very real example" of what could happen if investment in basic research was allowed to fall behind. "Congress used

foresight in 1954 when it amended that Atomic Energy Act to provide for research and development of alternative energy sources. However a review of the funding record for programmes of basic research reveals a history of peaks and valleys. This lack of sustained commitment has discouraged outstanding talent and blunted national progress."

The need to maintain stability in funding is, in particular, being used to justify demands for further increases in funding for the National Institutes of Health. In announcing that it was requesting a level of funding virtually the same as the current year (the Office of Management and Budget is even said to have suggested a decrease) the administration pointed out that Congress voted last year for a 23% increase in biomedical research support—and that even if this was spread over two years, it would still be comparable to planned increases in other areas over the same period.

Supporters of more funds for biomedical research, however, argue that things are not that simple, and that a stationary NIH budget would introduce instabilities by drastically cutting back on new research starts. "Analysis of

the budget by mechanism reveals a disconcerting and unacceptable reduction in the funds available for young investigators," says Dr Suzanne Oparil of the University of Alabama, chairwoman of the American Federation for Clinical Research.

A marked increase in obligated non-competing research projects supported by NIH would, she says, result in a 43% decrease in funds available for competing research projects. "Because young biomedical investigators are supported primarily by investigator-initiated competing research grants, this reduction in funds for competing grants must be vigorously opposed."

Biomedical research workers are particularly concerned that although in previous years Congressional committees have traditionally provided significant increases to medical research, the current mood against further public spending—together with the loss of several key Congressmen, such as Senator Edward Brooke and Representative Paul Rogers, who had previously championed the medical research cause—mean that a comparable increase this year is far from guaranteed.

David Dickson

## US accused of banning foreign scientists

FOREIGN scientists invited to lecture or participate in scientific meetings in the US continue on occasion to suffer the embarrassment of being denied entry to a country "proud of its right to freedom of speech", according to a senior member of the American Association for the Advancement of Science.

This situation arises because those taking part in scholarly and cultural exchanges whose political beliefs fall into particular categories—and in particular past or present members of the Communist party—must obtain a special waiver from the State Department to obtain a temporary entry visa.

"In general this policy has been implemented in a liberal way so as to remove automatic exclusion of foreign scientists and others who might express beliefs or support for political doctrines previously restricted by our immigration laws," Professor John Edsall, chairman of the Committee on Scientific Freedom and Responsibility, told a Congressional committee studying US compliance with the Helsinki Agreement earlier this month.

"However in some cases the policy has remained unchanged, or foreign visitors have been excluded on grounds other than political beliefs, thus making the waiver procedure more difficult to implement. What is most desirable from the view of scientists is the removal of these restrictions from

the US immigration laws."

Professor Edsall, who is professor emeritus of biochemistry at Harvard University, listed a number of cases which, he said, appeared to violate the principles of free travel as stated at Helsinki, instances in which political or administrative decisions had impeded the free circulation of scientists. These included:

- The refusal of a visa application—later granted—to Dr Sylvia Berman, an Argentine psychologist now living in exile in Mexico city who is alleged to have previously expressed Marxist beliefs, to participate in a meeting of the American Public Health Association in Washington DC, last year.
- The denial of a visa in 1975 to Dr Joseph Needham, the British science historian. Although the state Department informally acknowledged that this was because of his allegedly Marxist beliefs, it refused to provide him with the reason for the denial. Dr Needham subsequently refused to apply for a waiver. On subsequent visits, Dr Needham has been granted a visa without having to apply for a waiver.
- Late last year, delays in reviewing the visa application of Professor Jean Pierre Vigier, a French physicist who had been invited to address the AAAS annual meeting in Houston, Texas, made it impossible for him to attend the conference.
- Dr Andre Frank, professor in the

school of development studies at the University of East Anglia, although previously a US resident, has consistently been denied a visa on various grounds, both regarding his political affiliations and unspecified evidence—which Dr Frank denies—that he may wish to take up residence in the US again.

Professor Edsall said that other areas of concern involved the controls placed on the travels of foreign scientists while visiting the US, since the State Department has divided the country into open and closed areas as part of our diplomatic relations with the Soviet Union and East European countries.

"It appears questionable at the present time whether such a travel restriction policy will also be applied to the Chinese scientists, who are currently seeking expanded scientific exchange with the US. In the interests of science it is important to promote free access to all individuals who wish to exchange information, without arbitrarily assigning the need for screening or political controls", he said.

"Our violations are, I would agree, a good deal less serious than those that have occurred and still occur, in countries with Communist governments; but let us do away with them and show that we truly honour the spirit of the Helsinki accords."

David Dickson