

As an example of how not to regulate environmental chemicals, the case of diethylstilboestrol (DES) is a tough one to beat. A feed additive which stimulates growth in cattle, DES has been enmeshed in bitter controversy for more than a decade. The problem is that DES is highly carcinogenic, and traces of it can sometimes be found in meat and beef liver. Consequently, after bending over backwards for years in an effort to find a way to keep DES on the market the Food and Drug Administration (FDA) in 1973 issued an order banning its use. But the ban was thrown out in court because the FDA had ineptly failed to follow the correct procedure when it passed sentence. The result is that DES is still on the market and is now found in beef liver at higher concentrations than when it was banned two years ago.

That sorry series of events prompted the Senate last week to pass an unprecedented bill banning the use of DES in cattle feed, at least until the FDA can prove that it is safe. If the House of Representatives follows suit—prospects there are uncertain—it will be the first time that Congress has legislated against a single chemical.

The case against DES is a complicated one, which involves weighing the potential risks of long term exposure to extremely low levels of a known carcinogen against the economic benefits of bringing cattle to market more quickly. It is not something at which politicians are particularly adept, and the debate certainly proved that the floor of the Senate is not a particularly good place to reach complex regulatory decisions.

Diethylstilboestrol is one of the few chemicals for which there is good evidence that it causes cancer in man. Recently there have been a number of cases—220 have come to light so far—of an extremely rare vaginal cancer in young women in their late teens and early 20s; a common factor among the women is that their mothers took DES as a drug during the late stages of pregnancy to prevent miscarriage (a practice now discontinued). With such evidence at hand, there is good reason to keep DES out of foods.

But DES is an extraordinarily good growth stimulant for cattle, and it originally seemed that if it was withdrawn from cattle feed a few days before the beasts were slaughtered, it would all be excreted and no residues would contaminate the meat. Things did not work out like that, however, because in spite of FDA regulations

Washington seen

by Colin Norman

requiring cattle to be taken off DES at least a week before slaughter, residues continued to show up in beef and liver.

The levels at which it is present are, however, extremely low, and here the discussion gets into the controversial area of whether or not there is a threshold dose of a carcinogen below which it presents no health hazard. The Senate debate proceeded with those supporting a ban, led by Senator Edward M. Kennedy, citing a sheaf of reports suggesting that known carcinogens should be kept out of the environment completely, while opponents of the ban argued that DES is present in meat at such lower levels that it poses no risk. In the end, the ban was approved by a vote of 61 to 29, and everybody was left wishing that the FDA had been less inept when it first tried to ban DES.

● Acting with a degree of unanimity that is rare in the top echelons of the scientific community, 186 eminent scientists have endorsed a statement condemning astrology as pernicious, anti-scientific nonsense based on magic and superstition. Published in the September/October issue of *The Humanist*, the journal of the American Humanist Association, the statement notes that astrology “pervades modern society” and suggests that “the time has come to challenge directly, and forcefully, the pretentious claims of astrological charlatans”.

Proceeding from the observation that “in ancient times people believed in the predictions and advice of astro-

logers because astrology was part and parcel of their magical world view . . . [and] they had no concept of the vast distances from the Earth to the planets and stars”, the statement notes that “now these distances can and have been calculated, we can see how infinitesimally small are the gravitational and other effects produced by the distant planets and the far more distant stars”. Consequently, “It is simply a mistake to imagine that the forces exerted by stars and planets at the moment of birth can in any way shape our futures. Neither is it true that the position of distant heavenly bodies can make certain days or periods more favourable to particular kinds of action, or that the sign under which one was born determines one’s compatibility or incompatibility with other people”.

The statement was drafted by Bart J. Bok, Emeritus Professor of Astronomy at the University of Arizona, Lawrence Jerome, a science writer, and Paul Kurtz, Professor of Philosophy at the State University of New York at Buffalo. It was sent to about 300 scientists, chiefly astronomers and astrophysicists, during the summer, and about 60% of them responded positively. Among the signatories are 18 Nobel Prizewinners.

Given the eminently sensible and unarguable contents of the statement, it is not surprising that it attracted so much influential support. But why was it deemed necessary to open a frontal assault on astrology at this point in time? Kurtz said last week that he is disturbed by the burgeoning interest in astrology, particularly in the United States (where, according to one estimate, there are some 20,000 practising astrologers), and Bok noted in a separate article in *The Humanist* that some universities and junior colleges even offer courses in astrology. The statement itself also condemned “the continued uncritical dissemination of astrological charts, forecasts and horoscopes by the media and by otherwise reputable newspapers, magazines and book publishers [which] can only contribute to the growth of irrationalism and obscurantism”.

coastal shipping routes should receive more extensive use than at present. Perhaps alarming to the private motorist will be the call for consideration of severe restrictions on the use of private transport in one or two selected cities—Mr Palmer mentioned Bristol, his home constituency as a suitable example. Mr Palmer also mentioned the committee’s suggestion that companies should establish car pools rather than provide individuals with cars.

As for the less immediate future, the government is urged to consider the use of alternative sources of energy such as nuclear fusion and hydrogen fuel. Significant to that proposal is the recommendation that the Energy Technology Support Unit (ETSU), at Harwell, primarily responsible for research into new energy projects under the leadership of the Department of Energy’s Chief Scientist, Dr Walter Marshall, should be expanded and

strengthened by the task force. Mr Palmer also mentioned what he referred to as “way out” sources, and said that in particular the committee had been interested by the idea of tidal power. The Severn Estuary is in fact well suited to provide energy from that source and has already been the subject of several research schemes. Presumably, solar energy and wave power will also come under scrutiny if the committee’s proposals are adopted. □