Genetic engineering and farm animals

This is resource pack for teachers of 14 to 18 year-olds. The introductory notes suggest that it is suitable for students of a range of abilities and could be used on English, Science, Biology, Religious Education, Personal and Social Education, and General Studies courses. On the whole, the video is well produced and makes its points clearly. Patrick Holden of the Soil Association introduces the topic, saying: 'Agriculture is at an absolute crossroads - ahead is the high-tech solution which is more intensification, using genetic engineering, cloning animals, and factory farming: literally turning the countryside into a food factory.' The question posed by this pack is, do we 'want to maintain current emphasis on factory farming, adopt the free-range approach, or use genetic engineering to create new forms of farm animals?' The technology of genetic engineering and the threats genetic manipulation can pose to animal welfare are outlined, before the video goes on to question the benefits of this technology and whether they are justifiable. However, the view presented is one-sided, with no one from the pro-genetic engineering side actually appearing to present their counter arguments - although these arguments are mentioned. This puts some limits on the value of the pack as a teaching resource and, paradoxically, perhaps also weakens its thrust. Many people would agree that encouraging sixth form debates about these welfare and ethical issues is a good thing. This resource pack raises important points and it will prove valuable - as *one* of the inputs into such debate.

Genetic Engineering and Farm Animals. Compassion in World Farming Trust (1997). Compassion in World Farming Trust: Petersfield. Resource pack consisting of VHS video (19min) and 18pp of information and classroom activity sheets. Obtainable from, Compassion in World Farming Trust, Charles House, 5A Charles Street, Petersfield, Hampshire GU32 3EH. Price £12.50.

FAWC report on dairy cattle welfare

The length of this Farm Animal Welfare Council (FAWC) report is a first indication that all might not be well with the modern dairy cow. For the first time, the report discusses the welfare of adults, calves and young cattle (but not at market, in transit or at slaughter, as these issues have been dealt with in separate FAWC reports). The point is made early on that, '...dairy farming conjures an image of animals at pasture, chewing the cud with few, if any, adverse effects on welfare'. The remainder of the report, however, soon dispels this image as little more than myth.

Topping the list of many welfare concerns, is the increasing incidence of lameness in dairy cows, which is currently 'at an unacceptable level'. In his letter to the Minister of Agriculture, Fisheries and Food, the FAWC Chairman, Professor Sir Colin Spedding, calls for steps to reduce the incidence of this condition to be taken 'as a matter of urgency'. The report describes how some stockmen appear not to perceive lameness as a problem - which means it often remains untreated. This is despite the fact that lameness costs the dairy industry millions of pounds each year due to lower milk yields and the need for replacement animals.

'Involuntary' culling due to lameness, mastitis or poor fertility (all potential indicators of poor welfare) means that most modern dairy cows have a lifespan of less than four lactations. Although FAWC takes no position on whether the deliberate shortening of a

cow's life is in itself a welfare issue, if the culling results from inadequate management and care then it is certainly of concern. FAWC also considers that it is unacceptable to force a cow to produce excessively high quantities of milk, causing metabolic stress which leads to early culling. The report notes that work on very high-yielding cows in other countries suggests that production may have already passed the point where good cow welfare can be maintained. It therefore urges breeding companies to devote their efforts primarily to selection against lameness, mastitis and infertility, and to take into account conditions on the average farm, not just the best managed ones, when breeding for high productivity.

On-farm management is clearly vital in determining the well-being of cattle, since disease problems cannot be significantly reduced through selective breeding alone. Disease incidence usually increases through the winter when cows are housed, either in cubicle housing or straw yards. In both types of housing lactating cows and dry cows need well-bedded, comfortable, dry lying areas to encourage long lying times, a clean non-slip walking surface, and space in which to socialize and exercise safely. The report makes it clear that cubicle housing must be altered or, preferably, replaced to accommodate the larger sized cows (predominantly Holsteins or Holstein-hybrids) that are currently most favoured by farmers; when most cubicle-housing was built in the 1960s and 1970s the smaller Friesian cow was popular. FAWC finds it unacceptable to expect cows to rest on a bare, solid surface or a thin layer of sawdust or chopped straw which is easily displaced, and recommends that suitable bedding should be topped-up or replaced twice daily to keep cows clean and comfortable. The report also comments on farmers' tendencies to neglect the housing and exercise requirements of bulls.

During the consultation period, FAWC found that all-year housing and feeding is again being used by some farmers who maintain that it allows for more controlled nutrient intake and improved cow observation. With some doubts about the welfare implications of this system, FAWC recommends that research is undertaken to determine whether this type of husbandry is acceptable from an animal welfare viewpoint, with particular reference to the cows' behavioural needs.

Given the Council's concern about the all-year system, it seems slightly odd that it did not issue stronger recommendations to improve the welfare of cows housed in traditional cowsheds. Although uncommon, tethering from late autumn until spring without any provision for exercise still occurs. The report finds that cows kept in these conditions sometimes suffer from stiffness of joints, and recommends that they should be untied and allowed to exercise at least once each day. However, it offers no suggestions for a minimum duration for such exercise or how it should be implemented. As the report acknowledges that traditional buildings usually have low roofs and poor ventilation, if the animals are simply untied from their stalls and left to wander inside a cramped building this is unlikely to satisfy either their physical or behavioural needs adequately.

The part of the report which deals with the welfare implications of different reproductive techniques, recommends that caesarean section must not become a routine procedure. It reflects concern that oversized calves resulting from use of in vitro fertilized embryos can cause difficulties at calving, as can the use of unsuitable sires. Interest is also expressed in the potential benefits of sexing semen. This could be used to limit the birth of unwanted male dairy calves, which is currently a major problem, especially as the European Union calf-

processing scheme does not permit on-farm slaughter. The report strongly recommends that this slaughtering restriction be lifted to prevent calves from being needlessly exposed to long-distance travel. FAWC also reviews the conflicting views surrounding separation of mother and calf and recommends that further research should be carried out on this subject, 'taking into consideration the potential benefits that both might derive from being kept together within a practicable dairy system'.

Significantly, the Council recommends several changes to legislation to minimize pain and stress caused by mutilations such as castration, disbudding, dehorning, removal of supernumerary teats and ear tagging. They emphasize the importance of questioning whether these procedures are essential to prevent worse welfare problems. As dehorning is known to be particularly painful, the report recommends that, in addition to local anaesthesia, analgesics should also be administered as part of this procedure.

Perhaps the most encouraging point, repeated throughout the report, is that good stockmanship can help to reduce, control or prevent many of the more serious welfare problems raised, and bring benefits in terms of better health and welfare of the animals as well as a more efficient dairy herd. In particular, the once-a-day inspection of dairy cattle required by the *Welfare of Livestock Regulations 1994* is not, according to the Council, adequate for lactating animals or those near to calving. However, FAWC recognizes that it is difficult to recruit good stockmen as the job involves working antisocial hours and offers few opportunities for career progression. To help combat this problem, and to ensure competency and up-to-date knowledge among stockmen, FAWC advocate theoretical and practical training - both on-farm and from a recognized agricultural trainer. Training should, preferably, continue throughout their employment. 'It is up to those responsible for the management of farms', the report states, 'to ensure the cattle are cared for by sufficient, well-motivated stockmen and handled compassionately and in a humane manner'.

Unless this last statement is taken seriously and acted upon it seems inevitable, from the findings presented in this report, that the dairy cattle on many farms will continue to suffer unnecessarily.

Report on the Welfare of Dairy Cattle. Farm Animal Welfare Council (1997). Ministry of Agriculture, Fisheries and Food: London. 96pp. Paperback. Obtainable from FAWC, Government Buildings, Hook Rise South, Tolworth, Surbiton, Surrey KT6 7NF, UK (Pub No PB3426). Free.

Making choices about medical research

Choices is a video which seeks to explain the case for the use of animals in biomedical research to young people. It is aimed at sixth formers and college students. The video is accompanied by a short, but useful, set of teachers' notes which outlines the following reasons for making the video: (i) to provide information for pupils to help them make decisions about working with living animals or animal tissue in science classes; (ii) to offer pupils a balanced view of the issue of the use of animals in medical research; and (iii) to present the views of most medical scientists and patients' groups who are concerned that young people are being misinformed about the issues involved.

The video covers the dilemmas relating to use of animals with easily understood examples and metaphors. It is clear that the purpose of the video is to argue the case for the use of animals in medical research and to explain the reasons for and potential benefits of this activity. However, the title '*Choices*' reflects the open and questioning approach taken and,