

▶ the middle of the twenty-first century the world is going to face a food crisis, and that agriculture will consequently put increased pressure on wildlife habitats.

In 1998, the UK Institute of Biology and six affiliated societies (whose specialist interests range from agricultural production to ecological conservation) produced a report on the social and ethical aspects of GM crops². We cited half a dozen indicators of the forthcoming shortfall in global food supply, including the following. Forty per cent of terrestrial primary productivity is already managed by humanity. The trend for the past 15 years has been a reduction in grain production per capita. Global sea-fish catches have been in steady decline since 1990 because of over-fishing. World carry-over stocks of grain are declining from one year to the next. The grain harvest area per person has been declining since the late 1970s, owing to increasing population, growth in industry and desertification.

The increasing consumption of meat in the rich nations has put more pressure on the poor, although reversing this trend alone (even if it were realistic) would not counter the pressures caused by a population increase of 40 to 80 per cent over the next four decades. The world shows no sign of turning vegetarian. Although I am sympathetic to Latham's conclusion that "what is missing is the 'purchasing power' of the poor", the evidence is that when the poor become a little richer they eat more meat.

Given that agricultural inefficiencies and global inequalities are bound, sadly, to continue, it is likely that genetic modification where appropriate will make a significant contribution to human well-being — and to that of other species.

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1. *Nature* **404**, 222 (2000).

2. *GM Crops: The Social and Ethical Issues* (Institute of Biology, 1998). www.iob.org/gmcrops.html

Distinguished scientists back Germany's DFG...

Sir — Your recent News report "German research agency stifles creativity" (*Nature* **404**, 217; 2000) gives a negative and incorrect impression of the Deutsche Forschungsgemeinschaft (DFG).

Nature claims that DFG's inability to assess novel research areas and interdisciplinary research areas threatens career opportunities, especially for young researchers. The cases mentioned in the *Nature* report, however, are neither representative nor described in an unbiased manner.

Typically, the reviewing process of the DFG takes less than six months and involves a large number of scientists from foreign and German institutions and from senior as well as junior ranks. Every attempt is made to support the best and the most innovative scientific proposals. In fact, time and again high-risk proposals are funded that, for example, would have no better chance of support from the US National Institutes of Health.

Of course, no system is free of errors, and occasional undeserved negative judgements may be made. However, continual efforts are made to improve the system. Overall, we are impressed by the flexibility of the DFG, its unbiased support for creative, high-quality research and its programmes for young scientists and interdisciplinary research even at times when its budget is tight.

At this juncture, our most urgent concern is to convince politicians to increase funding to the DFG significantly. This is particularly important for the support of young scientists. We are very proud of the DFG as a self-governing body of the German scientific community and we believe it to be, by any standards, one of the best scientific funding agencies.

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Signed on behalf of 1,164 other biomedical scientists. The full list of
names is available from R. J.

...but young researchers feel disillusioned

Sir — Your recent News report "German research agency stifles creativity" (*Nature* **404**, 217; 2000) gives a negative impression of the Deutsche Forschungsgemeinschaft (DFG) — but one that is, in our experience at least, correct.

Nature claims that the process threatens young researchers' career opportunities in particular. Our last four applications for grants in the area of environmental toxicology (mechanisms of microcystin toxicity in the aquatic environment) were rejected, after an average delay of 10–12 months, as "irrelevant" or "dealing with non-existent problems". We did, fortunately, receive support for a similar grant from the European Union; the results of these studies have been or will be published this year, and they form the basis of an EU patent application.

The referees of our unsuccessful DFG applications did not seem, to us, to be up-to-date in their knowledge of the topic, or they had little understanding of environmental toxicology. Indeed, the comments we received from the DFG made us wonder whether the referees had even read the grant. They were so contradictory of each other as to provide us with no constructive advice on how to improve the application. The upshot was that, while we were able to demonstrate that our proposed research could be done, and was publishable in peer-reviewed journals, it was not considered fundable by the DFG. This kind of outcome may not seem devastating to seasoned scientists with established careers. But it impedes the careers of young researchers dependent on DFG funding within Germany, and is demotivating.

A better approach would be for grants to be sent out for review internationally; for referees' comments to be sent to the applicants in their original form, not rewritten by DFG to maintain anonymity (we are happy for peer-review to remain anonymous, but the rewriting leads to incomprehensible comments); and, as proposed in the *Nature* report, for applicants to be able to attend referees' meetings to answer questions and defend their grants.

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Nature replies — The *Nature* report states explicitly that the DFG reviewing process averages five to six months. The complaints discussed in the article concern the outliers to this average — applications in new, interdisciplinary, not traditional, areas of research. ■