Biotechnology and Brown Shirts

SIR — Scientists should find it chilling that “[l]ast year, all 15 small-scale field trials conducted by universities and research institutes in Germany were partially or fully destroyed by activists, even though most of those experiments were studying the environmental safety of growing genetically manipulated plants in normal agricultural environments” (*Nature* 380, 94; 1996).

It recalls Germany in the 1930s, when the Third Reich vilified and persecuted the practitioners of what the regime called *Entartete Kunst*, “degenerate art”. These subversives included Marc Chagall, Emil Nolde, Max Beckmann, Henri Matisse, Edvard Munch and Pablo Picasso.

Now we have a kind of *Entartete Forschung*, “degenerate research”. The German government is not culpable, except indirectly by neglecting to protect the personal safety and property of plant scientists against assaults by anti-biotechnology activists.

But the vandals are abetted by government ambivalence and policies that equate innovation with risk. There is an obvious solution — one that has been purposefully ignored by policy-makers in both the European Union (EU) and Germany: simply apply scientific and risk-based regulatory policies to the testing of transgenic plants.

As *Nature* said in a leading article in 1992 (356, 1–2), a broad scientific consensus holds that “the same physical and biological laws govern the response of organisms modified by modern molecular and cellular methods and those produced by classical methods.... [Therefore] no conceptual distinction exists between genetic modification of plants and microorganisms by classical methods or by molecular techniques that modify DNA and transfer genes.”

Disregarding the scientific consensus, current EU and German regulation requires extensive case-by-case government environmental assessments for proposed field testing with recombinant-DNA-manipulated plants. By contrast, phenotypically similar or identical plants are usually not subject to government scrutiny or requirements (or publicity) at all. And that applies even to the many new plant varieties that result from ‘wide crosses’, hybridizations in which genes have been moved from one species or genus to another — ‘transgenic’ plants by any reasonable scientific definition.

If recombinant-DNA-manipulated plants were treated like other new varieties, their testing would not need government review, special warning signs or public announcements. There would be no way for the thugs

to target and disrupt field research that they have decided are *Entartete Forschung*.

There is an important lesson here: the problem would have been avoided entirely if public policy had been crafted intelligently in the first place.

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Mild conversion?

SIR — The gentler tone of John Maddox (*Nature* 378, 435–437; 1995) would almost seem to represent a mild conversion. His appeal to religious scientists to help his unloved colleagues is quite touching.

If there really is serious distrust of science in our society, there are two matters on which we might meditate a little. The first is rather prosaic, but causes persistent annoyance. Listening to Wolpert or Dawkins, for instance, one is aware that some of the senior practitioners consider themselves, as scientists, to be in a very special category of human being. Rationality is their special preserve; and those outside science are assumed to be incapable of following their levels of logic. To me, this is both sad and nonsensical. By and large, I would say that scientists deal with the easier problems. In

Even Carl von Linné
would have difficulty
classifying us