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The numerology of idiocy

Europeans continue to reap a harvest of years of idiotic non-scientific nonsense. At the end of February, a committee of representatives from the national agriculture ministries in Europe proposed that batches of seeds to be planted in the EU containing certain low proportions of approved genetically modified (GM) seeds could avoid the censorious label “contains GMO” (see p. 324). The rule changes are absolutely essential. Without them—given that commercial growing of GM crops is still banned in Europe—farmers would be unable to grow crops and European gourmards unable to eat homegrown food. The proposed tolerances vary by crop—reflecting propensities to cross-pollinate, storage and harvesting methods, and several other considerations—and are set at 0.3% for rape and cotton, 0.5% for tomato, beet, or potato, and 0.7% for soybean. This seems all very logical—until one examines the basis of these numbers in a little more detail. Significantly, the thresholds for seeds have been back-calculated so that the products of the crops meet the 1% threshold for “adventitious presence [of genetically engineered organisms]” laid down in earlier European legislation, the “Novel Foods” regulation of 1997 (#258/97).

The 1% novel foods threshold was an administrative compromise reached without reference to any data on safety, nutrition, or other food-related criterion. It was an administrative compromise that, incidentally perhaps, created work for administrators. The need for novel food regulations was itself created by the 1990 “Deliberate Release” directive, the overarching European legislation developed and administered by officials and politicians with responsibility for the environment to combat threats from GM organisms. Obviously the food guys were not about to let the environment people tell them how to regulate GM food, so they had to design GM-triggered legislation of their own.

Brick by brick, then, the edifice of European GM legislation has been constructed. On ground prepared by the acquiescence of industry, this structure has been cemented by national implementation, and reinforced by the spiraling dread of public perception. But it is built on sand. Committees can continue to make the edifice internally consistent and self-referentially coherent, but unless they assimilate the information and experience that has been accumulated, the legislative body risks becoming bereft of any relationship to reality.

Laws that snap into action at the sniff of a GMO are misdirected. In 1990, when the EU laid the foundations of its folly, such a view could have been dismissed as mere opinion. Twelve years on, it is increasingly clear that “GM-ness” is not the potential problem. If there are reasons to worry about some of the traits that genetic modification can deliver, or about some conventional agricultural practices—and there are—then it is those traits and those practices that should trigger the harnessing effects of legislation. But in Europe, of course, that would be to attack the all-powerful agricultural establishment and the greater folly that is the Common Agricultural Policy.

Such political realities may mean that Europeans will have to become accustomed to impractical and unjustifiable legislation. But that is no reason for them to accept it, or for voices of sanity within Europe and outside not to rail at the continuing destructive idiocy.

Trivial pursuits

Biotechnology’s most touted achievement last month was “Cc:”, the first cloned domestic cat (p. 328). This furry clone and her ilk could benefit neuroscience research. She might also allow us to answer questions about longevity (9 or 18 lives)? But “Cc:” was not created to advance medical knowledge or provide fundamental biological insights. She was created because there is a market among certain rich cat owners for resurrected animal companions.

For some people, it is obviously an attractive idea that one could simply write out a check and have a company thaw out a vial at the first signs of Fido flagging or Mr. Tiddles losing his appetite for rodents. For an extra \$1 million, it might be possible to engineer cloned cats with opposable thumbs that could open their own cans of chow, thus avoiding the inconvenience of feeding time. The satirical magazine *Private Eye* has even suggested that we create short-lived pets to suit irresponsible owners. Under a cartoon of a shop window full of doe-eyed dogs, it ran the caption: “GM puppies—guaranteed to be just for Christmas.”

There is a distressing truth about this kind of exercise in *reductio ad absurdum*: and that is, it is all too believable. We all know a CEO, a scientist, or an investor somewhere whose reaction would be: “Just for Christmas, eh? Y’know, that might just work.” The commercial imperative appears so often to have deflected the process of R&D in relatively trivial directions that we cannot say, “No company would do that.”

Part of the problem is that biotechnology’s achievements have been consistently more lowly than its aspirations. It may have set out to feed the world, but so far it has managed only to market herbicide-tolerant crops. It wanted to understand the underlying causes of common disease but has delivered only relief for the symptoms of a few rare maladies. It embraced the principles of cloning for regenerative medicine but has ended up producing perpetual pets.

There are, of course, many applications for biotechnology’s powerful tool sets. Disease-resistant chickens could be crammed into ever-smaller spaces in factory farms. Cattle immune to BSE could return with impunity to a cheap diet of rendered animal remains. Cloning athletic Delta semi-morons to populate boy bands would be a definite commercial possibility if only conventional reproductive technologies hadn’t satisfied the market already.

Exploiting all the available commercial opportunities may be good business. But if R&D is left solely to market forces, then we will not only produce some rather tacky products but also lose sight of our grander goals. Worst of all, the public may start to become convinced that biotechnology is incapable of delivering on its loftier ambitions. **16**