DRUG BANISHES BAD MEMORIES
Blood-pressure pill quells fear.
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refuseniks. It sent the EFSA a thick dossier of new data that it argued raised safety concerns. But the EFSA concluded that none of the supposedly new scientific evidence provided by these four countries "would invalidate the previous risk assessments of maize MON810".

Given the committee's failure to make a decision, the dossier on France and Greece will now have to be considered by the environment ministers of the EU nations within the next three months. The ministers will also consider the cases of Austria and Hungary when meeting in council on 2 March.

If the council of ministers fails to reach a qualified majority in favour or against, the commission itself has to make the decision. "Ad infinitum, ad absurdum," says an insider at the environment ministry. "The legal framework is science-based, yet getting a decision is very difficult."

Lack of trust

Natalie Moll of EuropaBio, the biotech industry lobby group in Brussels, says that the regulatory committee's failure to bring an end to cultivation bans "gives the usual European mixed signal — that we have the toughest scientific approval system in the world, but we don't trust it".

In the meantime, the EFSA is working through its backlog of applications for the cultivation of 13 other GM crops. It has already approved two more insect-resistant maizes — BT1507, which is jointly owned by Pioneer and Dow Agrosciences, and BT11, owned by Syngenta. Both approvals will be discussed by the regulatory committee on 25 February.

As the timetable for key decisions tightens, many politicians are entrenching their positions. After a risk-analysis report by the French food-safety committee giving MON810 a clean bill of health was leaked to the press last week — it had previously been suppressed — prime minister François Fillon rushed to Brussels to insist that France would maintain its ban whatever the EU decided. At the same time the state government of Bavaria stopped all field experiments on GM crops, confining them to greenhouses, and the Bavarian environment minister Markus Söder announced his intention to block cultivation of GM crops in the state.

Meanwhile, public opposition to GM crops may be slipping. In a Eurobarometer public-opinion survey published last year, the percentage of those who said they were against GM crops fell from 70% to 58%. ■

Alison Abbott

MRI modified for better images

A simple change to magnetic resonance imaging (MRI) machines will provide more uniform coverage at higher powers as well as more room for portly patients. In a market set to be worth more than $5 billion by 2010, the new technology may offer an easier way to get to the high-field machines manufacturers and clinicians see as the next target for hospital imaging.

MRI machines use a magnetic field to get hydrogen atoms in the body spinning in a particular way, then knock them off-balance with a radio wave. The small radio-frequency signals given off by the recovering nuclei provide the imaging data. In their new version of the technology, Klaas Pruessmann at the University of Zurich, Switzerland, his student David Brunner and their colleagues removed the radio-frequency coil used to tumble the nuclei from an MRI machine built by Philips Healthcare and replaced it with a system that could do the same job from up to 5 metres away. The university has filed for patents on the technology, which is described on page 994 of this issue.

"It's a completely new approach to exciting the signal in MRI," says Andrew Blamire, an MRI expert at the nuclear magnetic resonance centre in Newcastle, UK.

"Claustrophobia is a widespread problem in clinical MRI," says Pruessmann. Removing the coil from the machine provides a less constraining cavity. But the potential advantages go further than the patient experience. The easily made change of approach may allow designers of increasingly powerful MRI machines to overcome some of the technical hurdles that trouble them.

Standard clinical MRI scanners use magnets with field strengths of about 1.5 Tesla and radio-frequency signals of about 64 megahertz, but the fastest growing part of the market at the moment is for higher power, 3-Tesla machines. Even more powerful magnets would be better; they magnetize more nuclei, giving stronger signals. But stronger fields need higher frequency, shorter wavelength radio-frequency signals, and wavelengths shorter than the size of the subject — a human head, for example — lead to some areas producing either a zero signal (blind spots) or a very strong signal (hot spots). Magnets with strengths of 7 Tesla can produce super-clear images in some places, but because the corresponding radio-frequency wavelength is just 12 centimetres in human tissue, the results are dark and undecipherable in others.

Pruessmann's technique uses a travelling wave rather than a standing wave, with the cylindrical conducting tube lining the machine functioning as a waveguide for a signal transmitted by an outside antenna. The approach could, in principle, allow designers to avoid many of the effects of hot spots and blind spots.

The technique was unveiled last May at the International Society for Magnetic Resonance in Medicine meeting in Toronto, Canada. This provoked Graham Wiggins of the Center for Biomedical Imaging at New York University's Medical Center to build his own version. He found that in whole body scans, the inhomogeneity wasn't completely removed, but the positions of the blind spots and hot spots were different. "I've spent so long trying to change that pattern and couldn't," says Wiggins. He can now see areas of the brain that were previously dark to MRI. "That's exciting," says Wiggins, who is working with one of the big industrial MRI players — the health-care arm of Siemens, which is based in Erlangen, Germany.

"Most of the major manufacturers have a significant research interest in clinical imaging above 3 Tesla," says Matthew Clemence, a senior scientist with Philips Healthcare based in Reigate, UK — one of those manufacturers. GE Healthcare, headquartered in Chalfont St Giles, UK, is another. "The biggest benefit of this technology is in reducing the image shading that occurs when standing waves are generated in the subject," says Jason Polzin, chief engineer of global magnetic resonance at GE. This is one of a variety of solutions to this problem, Polzin adds. Another approach is to use multiple radio-frequency coils within the scanner, which is "technologically fascinating but insanely complicated", according to Wiggins, and adds even more bulk to the internal space.

Pruessmann, although aware of the commercial interest for clinical MRI, sees wider applications for the new technique. "This introduces a whole new way for thinking to this field," he says, pointing to possibilities such as screening large numbers of biological samples or laboratory animals all at once. "Giving people a new degree of freedom will hopefully lead to things that we haven't thought of at all." ■

Katharine Sanderson