

# Study looks at beef pasture minerals

## The latest in organic R&D news

### WESTERN AUSTRALIA

#### Research into soil fertility in organic beef production

With organic beef production having the potential to be a valuable export industry for Western Australia, Rural Industries Research and Development Corporation (RIRDC) is funding a WA research project on soil fertility in organic beef production.

The research is based on organic management during the conversion phase to certified organic practices on a beef farm in south-western Western Australia.

University of Western Australia's PhD student Jennifer Davis is conducting the research. She says that, in particular, little is known about the effects of using rock minerals on pastures in Western Australia.

The project is investigating aspects of using silicate minerals and rock phosphates as fertilisers in organic beef pastures. The effects of silicate rock minerals on plant uptake of nutrients will be studied with the possibility that minerals will increase soil micro-organisms and assist their dissolution in soil. The research will also address concerns about whether rock phosphate can adequately supply pastures in Western Australia with phosphorus.

A newsletter, *Soils are Alive* published recently by the university's Australian Soil Club, examines soil biological, chemical and physical fertility from the point of view of organic beef production. The newsletter is available at <[www.soils.org.au](http://www.soils.org.au)> or email Jennifer Davis <[jdavis@graduate.uwa.edu.au](mailto:jdavis@graduate.uwa.edu.au)>

### UNITED KINGDOM

#### Intensive food production linked to mental ill-health

New research adds to the growing body of evidence that food can have an effect upon a person's mental health and behav-

our that is both immediate and lasting because of the way it affects the structure and function of the brain.

Research carried out in the United Kingdom by the Mental Health Foundation and Sustain has revealed that significant changes in the way food is produced and manufactured have not only reduced the amounts of essential fats, vitamins and minerals consumed, but have also disturbed the balance of nutrients in the foods eaten.

The proliferation of industrialised farming has introduced pesticides and altered the body fat composition of animals due to the diets they are fed. As a result, the population's intake of omega-3 fatty acids has decreased while the consumption of omega-6 fatty acids has increased.

The report asserts that many nutrients can improve a person's mental health, and dietary changes may hold the key to combating specific mental health problems including depression, schizophrenia, attention deficit hyperactivity disorder and Alzheimer's disease. The research is available to download from <[www.mentalhealth.org.uk/feedingminds](http://www.mentalhealth.org.uk/feedingminds)> and <[www.sustainweb.org](http://www.sustainweb.org)>.

### FRANCE

#### Study reveals pesticides raise child risk of leukaemia

Exposure to pesticides in the womb or as a child can double the risk of developing acute leukaemia, according to French scientists. Researchers at the institute INSERM Villejuif discovered that children born to women who used insecticides in the home while pregnant and after the birth were nearly twice as likely as other youngsters to develop leukaemia. Even insecticidal shampoos to kill head lice raised the odds of the disease. Source: <[www.planetark.com/dailynewsstory.cfm/newsid/34510/story.htm](http://www.planetark.com/dailynewsstory.cfm/newsid/34510/story.htm)>. ■

### UNITED STATES

#### New reasons to perfect organic no-till

When it comes to greenhouse gases, reduced tillage has been heralded a panacea for its ability to increase soil carbon by capturing carbon dioxide from the air. But New work by United States Department of Agriculture personnel in Minnesota may lead us to re-think this assumption.

For some time researchers in Michigan have been suggesting that nitrous oxide – with nearly

**300 times the greenhouse potency of carbon dioxide – needs to be factored into greenhouse gas calculations. Nitrous oxides are associated with fertiliser nitrogen use and, like soil carbon levels, can be influenced by tillage regimes.**

Soil scientist Rod Venterea and his colleagues at the USDA's Agricultural Research Service have shown that over a two-year period, the combination of anhydrous ammonia fertiliser use and no-till can lead to alarmingly high nitrous oxide emissions.

The Rodale Institute's farming system trial shows that high yields associated with the use of anhy-

**drous ammonia can be readily achieved through the use of legume cover crops. In a legume-based organic cropping system, high corn yields can be maintained without the high energy, environmental and health costs associated with ammoniated fertiliser.**

In this regard, The Rodale Institute's work on a biologically based no-till system using mechanically killed cover crops offers a real alternative to conventional no-till systems based on intensive use of fertilisers and herbicides.

The full report is available at <[www.rodaleinstitute.org](http://www.rodaleinstitute.org)>. ■