

Livestock to rescue in capture of carbon

Our grazing animals aren't warming the Earth, writes **David Mason-Jones**.

THERE is a growing awareness in political parties, the bureaucracy and the public as a whole, that carbon sequestration in plants and soils can play a role in drawing down carbon dioxide from the atmosphere.

This is welcome because it is a first step in the right direction.

To grasp the full potential of terrestrial carbon sequestration, politicians, bureaucrats and members of the public may need to take several more steps in the same direction.

We may all have to rethink our understanding of the role livestock play in the atmospheric carbon cycle.

Far from being a fundamental net contributor to global warming gases, as is widely perceived, livestock play a neutral role with regard to the cycling of atmospheric carbon. This may be a new and challenging proposition to many, but it is scientifically sound.

The first step in the thought process is to deal with the misconception that cattle are just standing there in the middle of the paddock belching vast quantities of completely new carbon in the form of carbon dioxide and methane.

This view fails to recognise that livestock cannot "make" any carbon atoms, but they get it all from plants which, in turn, get it from the atmosphere by photosynthesis.

When the cattle breathe out these gases, including methane, it all returns to the atmosphere again, where it came from in the first place.

When considering global warming gas emissions it is worthwhile to distinguish between livestock and power stations. A cow or sheep gets its carbon from the air, a power station gets it from the ground.

After burning the carbon, the power station releases new carbon dioxide to the air.

The animal can re-use its carbon dioxide waste product by eating more grass. A power station can never re-use its carbon dioxide waste product.

When methane is emitted it reacts with oxygen in the atmosphere to form carbon dioxide and water. In



GOOD JOB: Livestock can re-use carbon dioxide waste product by eating more grass.

other words, the carbon atom in the methane molecule reverts to exactly the same form as it was before the process of photosynthesis began.

The methane issue is rarely discussed as a natural consequence of plant growth and it will be produced in large quantities from a landscape whether farm livestock are present or not.

A new and challenging body of knowledge is emerging about the way methane is consumed as a food source by soil microbes.

University of Sydney researchers have found that certain Australian soils can absorb methane at high levels. In fact, the soils studied in the research project could absorb more methane annually than cattle could emit grazing the same land.

The research was carried out in the Snowy Mountain region. The grazing land in the study had high organic matter at about 5-7 per cent.

These high-country soils were found to oxidise methane at a rate of about 8760 kilograms of methane per

hectare per year. By contrast, 100 head of cattle emit about 5400 kilograms of methane per hectare per year.

Professor Mark Adams, Dean of Sydney University's Faculty of Agriculture, Food and Natural Resources, says high-country grazing is easily methane-neutral and may even offset cow methane from other parts of the landscape.

The next step in the process of fully grasping the potential for livestock to be seen in a positive light in the global warming debate may be even newer and more challenging.

It is understanding that, not only are sheep and cattle "not guilty" with regard to inordinate carbon gas emissions, they can actually be part of the solution. The relationship between ruminant animals and grasses can be managed in such a way that it results in millions of tonnes of carbon dioxide being drawn down from the air above our heads, converted to soil carbon in

various forms, and sequestered beneficially in hundreds of millions of hectares of farmlands and rangelands in Australia.

The amount is so vast that it can exceed Australia's annual emissions of man-made carbon dioxide.

Large numbers of graziers are embracing "carbon grazing" methods and this view is supported and promoted by such prominent Australian scientists as Tim Flannery - Australian of the Year in 2007 - and the respected Wentworth Group of Concerned Scientists.

Far from being the villains of the global warming debate, farmers and graziers, together with their plants and animals, can be - and should be - the heroes of the environmental movement.

David Mason-Jones is a journalist and author of *Should meat be on the menu?* available at journalist.com.au.

Topics today



Today's fact

Muzak was invented in 1922 by brigadier general George Owen Squier.

Today's word

Maven: an expert or connoisseur.

It happened today

From our files - 1916: In an effort to provide fresh fish to the region, the state government has established a depot where purchases can be made over the counter and a distribution network will be established.

Today in history

1743: First rules of boxing approved, drafted by John Broughton, third heavyweight boxing champion of England.
1825: Scottish explorer Alexander Gordon Laing becomes first European to reach Timbuktu, now in Mali; he was murdered there the following month.
1870: Western Australia is granted representative government.
1914: US president Woodrow Wilson proclaims American neutrality in World War I; Germany declares war on Russia.
1960: First commercially produced oral contraceptive, Enovid 10, is launched in Skokie, Illinois.
2000: Indians belonging to a tribe believed to have been decimated 80 years ago are located in the jungles of the Amazon state of Acre in Brazil.

Born today

Meriwether Lewis, US explorer (1774-1809); **Shelley Winters**, US actor (1920-2006); **Roman Polanski**, French-born film director (1933-); **Robert Redford**, US actor (1937-); **Patrick Swayze**, US actor (1952-2009); **Christian Slater**, US actor (1969-); **Edward Norton**, US actor (1969-); **Cameron White**, pictured, Australian cricketer (1983-).



Odd spot

British men don't want their partners sunbathing topless but are happy to see other women baring all on the beach, according to a poll by travel agent sunshine.co.uk. Of the women among the 2392 people surveyed, 68 per cent said they were prepared to go topless on the beach. Of these, 78 per cent said they would do it to avoid tan lines, while just 3 per cent admitted to exhibitionism.

Today's text

For God has not given us the spirit of fear, but of power and of love and of sound mind.

Blank ballot is an irresponsible cop-out

Mark Latham's advice is empty-headed thinking, writes **Bruce Manners**.

IN a remarkable performance on *60 Minutes* on Sunday, Mark Latham, former leader of the Australian Labor Party and wannabe prime minister, announced he's going to the polling booth to put in an empty voting form.

His message: "When it comes to good ideas for Australia's future, Gillard and Abbott have given voters a blank piece of paper, so let's give them a blank piece of paper in return."

He's inviting us to do the same to send a message to our politicians.

That's a bit rich coming from someone who, a few years ago, was out and about seeking votes for himself and his party. Does he think

politics has gone downhill so much since his party rejected him as leader? Is this personal? Or after his recent run-in with Julia Gillard, is he merely planning a career as a walking headline?

More important, though, is this question: what would happen to democracy if no one participated? Do we search for a benevolent dictator - and what guarantees do we have they would stay benevolent?

We have this messy, inefficient system called democracy in which our politicians are accountable every few years to the people. It's complicated by the fact that there are parties involved, which means our representatives, at times, have divided loyalties between their constituencies and their party. That adds to the messiness.

What this messy, inefficient system has done, however, is build a stable nation that allows for divergent

views, such as Mr Latham's. That must never be discounted.

It's easy to be the critic. It's certainly easier than trying to find solutions. And, it must be admitted, it isn't always easy making a choice at the polling booth.

However, there's something healthy about a nation that encourages everyone to vote (that's the law), and allows anyone to stand. The range of parties and individuals attempting to represent NSW in the Senate is a fascinating insight into Australian life.

You'll find on the ballot paper groups such as the climate sceptics, communist, secular, sex, and shooters and fishers parties. Mostly they're special interest groups that will secure much less than 1 per cent of the vote. Then there's a long list of independents, unknown to most of us, who have put their names down. So while, realistically speaking,

none of these parties or individuals has a chance of being voted in, the fact they're there says something positive about our nation. And they're "having a go".

It's a cop-out to go to the polling booth and do nothing. Here's a chance to make a statement that is meaningful - by voting. Leaving the paper empty means you're asking someone else to make the decision for you. That's when you become a bystander.

So, sorry Mr Latham, while I'm still waiting to be impressed that any party can actually lead Australia strongly into the future, I'll be making my mark on the voting form. It's both a responsibility and an opportunity.

Dr Bruce Manners is Avondale College Seventh-Day Adventist Church senior minister.