Methane Version 1.8 14 March 2017

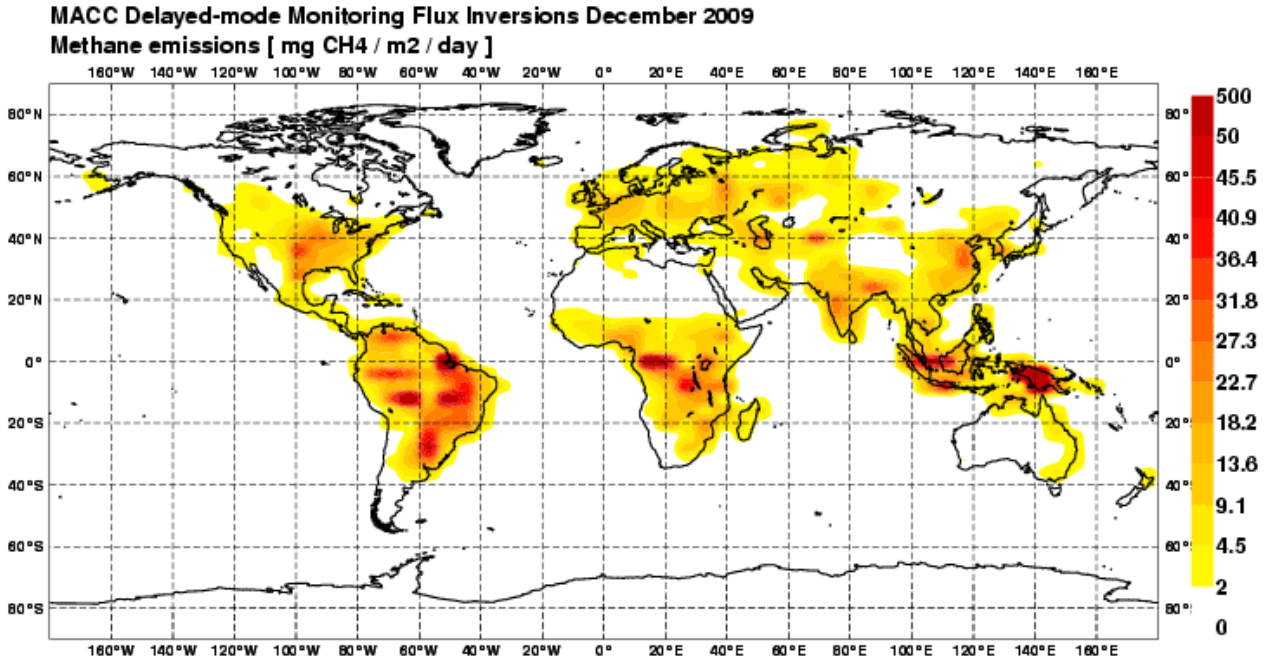
Methane Gas

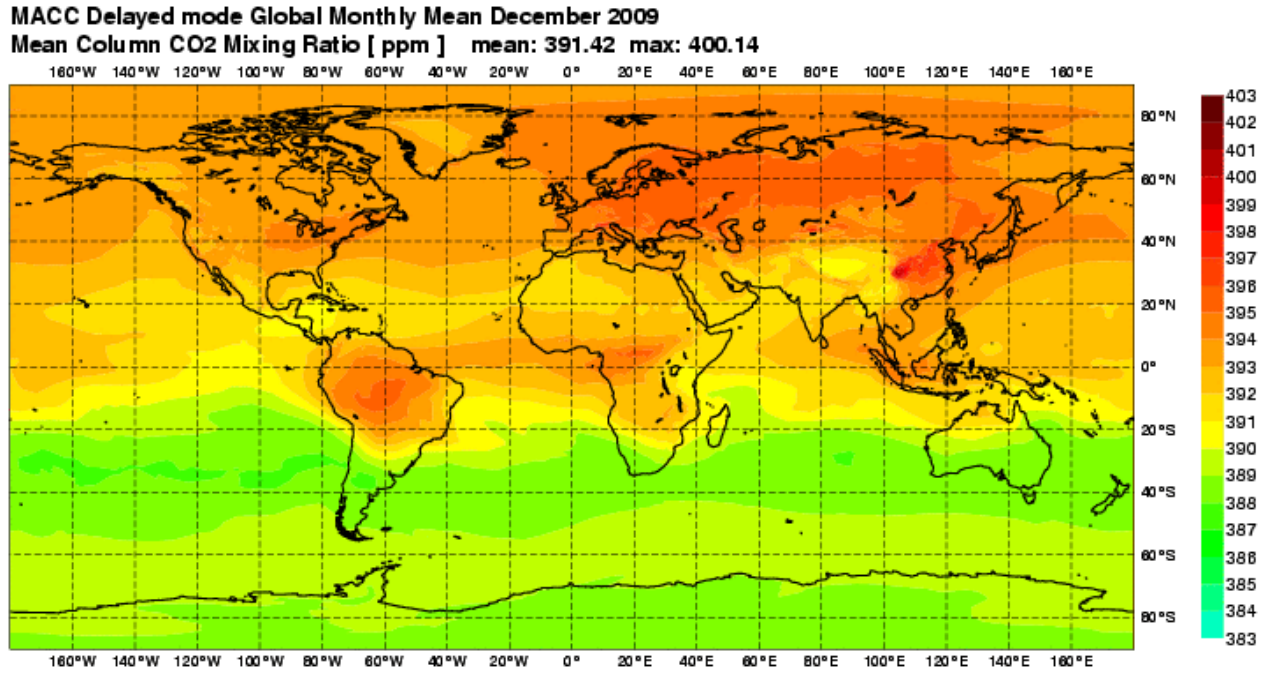
This is produced in dense forests and by all eaters of food, especially the first stomach of ruminants, called the rumen. It has billions of microorganisms that ferment the food and make methane which is belched out as ruminants regurgitate and chew the cud. This is part of a natural digestive process which ruminants have always done. No methane comes out the back end. Clover based pasture fed ruminants, produce a lot less methane than grain fed ruminants.

Below are methane level indicators which show dense bush produces most.

A methane scientist measuring it, was astounded at the high levels on the soil surface in dense bush in South America, shown below. This fact shut up some of the Greenies and animal critics, but only for a while. Look at the NZ low methane production below. It shows how little pollution comes from New Zealand.

Methane & Carbon Dioxide below





In trying to appease the Kyoto bureaucrats and USA critics of New Zealand, who see us as competition in milk and meat, our government got Dexcel to spend five million dollars researching

dairy cow production of methane, which found that much less methane was produced by New Zealand pasture grazing ruminants than northern hemisphere grain fed ones. NZ scientist Sharon Woodward showed that by world standards, New Zealand produces a negligible quantity of methane (0.34% of global methane) as shown in this chart by USA MACC in 2003. She also identified that the more clover in mixed pastures the less methane produced, and applying urea decreases clovers. For more information read Pollution.

Dairy farmers will enjoy learning that at the time, the total sheep in New Zealand were producing more methane than cows, and when the Waikato was in dense bush and swamp, insects produced more methane than now.

New Zealand's total methane production from all sources is currently 0.34% of global methane. However, on a per capita basis, it is 10 times the world average because New Zealand has only 4 million people and a large number (60 million) farmed ruminants. However, New Zealand animals are not pets; 90% of their production goes to feed and clothe the hungry world, so why should our farmers pay anything? The oil producers don't pay taxes on their exports, which is a much higher polluting fuel. This is another sign of jealousy of our clean green country.

Australian CSIRO research showed that the amount of methane emitted from cattle fed on tropical grasses in northern Australia is up to 30 per cent less than figures currently used to calculate the northern hemisphere cattle industry's contribution to Australia's greenhouse gas accounts.

New Zealand measurements were based on stall fed animals in the northern hemisphere which are higher producers of methane than clover based pasture fed animals.

New Zealand grazing animals produce more protein and less fat than others.

Clovers in mixed pastures make less methane than pure perennial ryegrasses in the northern hemisphere pastures.

Carbon dioxide

Methane production is lower still when the percentage of clover is higher because it is easier and faster to digest with less chewing, which is when methane is made.

Methane even from northern hemisphere grazed ruminants on their long dry grass with almost no clover, is much higher than from New Zealand lush more easily digested clover based pastures.

AgResearch spent $5,000,000 researching the reduction of methane production by ruminants. It was a complete waste of money because the typically scientist suggested solutions were of no value at all. One was to grow Sulla, which is a low producing legume that doesn't survive grazing. Clover pastures make less methane than grass-only pastures, but that has not been promoted. Instead, they recommended the use of urea, whereas LimePlus (agricultural lime, Serpentine magnesium silicate, and deficient elements mix) is the best solution to the problem. Anyway, New Zealand's total animal methane production is so low (0.4%) that, if all New Zealand's ruminants were eliminated, there would be no reduction in the world's total methane production. Rice paddy fields are massive (45%) producers of methane, but rice growers are not paying for it. Wetlands produce 15%. To check the above, a New Zealand researcher went to the Amazon jungle in 2009 and when measuring the absorption of carbon by trees, was astounded to see methane showing up on his methane gauge. He traced it to the billions of insects in the forest leaf litter base, which is what New Zealand had before changing their forests to pastures. Termites, surprisingly, produce about 15% of global natural methane emissions; which is part of their normal digestive process. Stirrers go on about New Zealand's total animal methane production of 0.4%.

Four things about methane -

1. The vast areas of NZ swamps produced more methane than the ruminants grazing the drained pastures today.

2. Methane doesn't accumulate because it is burned up by lightning as shown.

3. Blaming grazing ruminants for pollution is another northern hemisphere attack on natural grazing farming, because grazed pasture increase carbon in soils, and the world's soils store more carbon than all the world's trees.

4. Methane production by cows? The so called 'polluting?' farmers came and drained lots of the Waikato swamps that like rice swamps gave off far more methane then than is

made now from pastured land grazing animals. This photograph of a lightning strike over a swamp producing methane, in a flash near ground level. Has anyone got a photograph of lightning striking and burning a herd of methane producing cows!?

Kyoto (Japan), excess carbon, and methane, are bureaucratic gold mines for the scientists and their staff who get on the bandwagon (gravy train) and like pigs with their snouts in the troughs, that we taxpayers, stupidly fill, instead of putting them on the unemployed list, which would be cheaper, but it is not their fault. The fault was that of the Labour Party's Rogernomics for sabotaging agricultural research.

Rice paddies (swamps) produce many times more methane than grazing ruminants, but countries with rice paddies wisely chose to not include paddy fields in their Kyoto pollution reducing formula, because they "couldn't". New Zealand cannot reduce its minute methane production, and if we drove all our ruminants into the sea (which would please greenies and some animal farmers in the Northern Hemisphere), the reduction in the world's methane would be 0.4%, which is nothing.

The Northern Hemisphere are the big polluters, but they blame us as their form of defence.

Alan Nation, editor of Stockman Grass Farmer wrote to me, re "Our USA dairy farmers feeding dairy cows a high fibre diet? Research shows that cows on highly digestible New Zealand type pastures produce far less methane and a lot more milk."

Methane Emission

AgResearch are claiming that **genetically** modifying grasses may reduce methane emissions, but world feelings show that we would not sell GM produce, so whether our cows reduce our 0.4% of the world's emissions won't matter, because most won't buy GM produced animal products.

No doubt AgResearch hope to patent and sell the resulting grass and get employment for scientists and their bureaucratic teams along the way.

Research shows that cows fed highly digestible forages like clover based pastures, produce less methane.

The AgResearch Science Review 2010 was a costly extravagant ego trip that contributed nothing to agriculture and in some parts showed ignorance. For example they still don't know that grass staggers caused by their AR37 is not caused by the private NEA2 and can be reduced by ensuring that selenium levels are adequate.

They also don't follow what I proved pre 1960 and my clients have proved for themselves since then, i.e., that applying optimum amounts of LimePlus (Read Minerals > Calcium) prevents Facial Eczema after about two years, caused by earthworm numbers increasing and eating the thatch (dead grass) on which Facial Eczema spoors breed. We had none on our two farms as do many GrazingInfo farmers.

The item below from USA is based on rough pasture, not lush clover based New Zealand ones, and the fuel used to grow grain causes more pollution.

"USA agriculture is presently exempt from carbon emission regulation in the carbon bill making its way through Congress. This means that tractors, manure lagoons and the methane produce by cows will not be subject to regulation. However, no Agriculture is presently exempt from carbon emission regulation in the carbon bill making its way through Congress. This means that tractors, manure lagoons and the methane produced by cows will not be subject to regulation. However, no provision has been made to reward farmers for introducing carbon sequestering techniques such as no-till and controlled grazing. Farm groups say this lack of reward has the same effect as punishing agriculture because the carbon legislation is expected to increase the cost of diesel, fertiliser and steel farm implements. Corn farmers are also getting nervous about the increased scrutiny of corn-based ethanol and its role in increasing atmospheric carbon dioxide."

What is the ozone layer?

An area of naturally occurring gas in the stratosphere, 15-35km above Earth, that protects humans and other organisms by filtering solar ultraviolet (UV) B radiation.

Why is it important for New Zealand?

Although it is present in only small amounts in the Earth's atmosphere, it is vital to human life and the ecosystem. Its decline is largely blamed for New Zealand having the highest melanoma rate in the world, with about 300 deaths a year.

What started its decline?

Chlorofluorocarbons (CFCs) - chemicals used in spray aerosols, foam, soap and refrigeration - were identified in the 1970s as causing ozone layer breakdown. The problem is particularly bad above the

Antarctic where low temperatures speed up the conversion of CFCs to chlorine which reacts with UV rays and destroys the ozone.

Why has it started healing itself?

The international community banned CFCs in 1987 by signing the landmark Montreal Protocol. It is widely regarded as one of the most successful environment protection agreements in the world.

Methane is all Gas

Is research being done and promoted on what farmers can do to reduce ruminant produced methane within what is already known, available, possible and practical? No.

It is known that pastures with a higher percentage of clover produces less methane, but have researchers using tax payers money in their ivory towers told farmers this and encouraged it? No.

Have they told farmers how to increase the percentage of clovers in their pastures? No.

What are researchers and the government doing to inform farmers? Nothing.

Admittedly the agricultural research PR divisions are not functioning now because they can't earn funds as required by governments, but researchers have always received good media publicity.

Researchers should remember that agricultural research is not finished until farmers are using it.

Some researchers have mentioned, while criticising farmers, that there are legumes such as Sulla and Lotuses which will reduce methane. This is just grandstanding to the public and again belittling farmers who feed the country and make imports possible.

In the Spring 2003 Dexcelink (phone 07-858-3753), a researcher, has gone to lengths in a two page flash article about Hot Air and her methane research which I know has gone on for at least three years, but she did not mention a single real, practical useful solution to farmers. My questioning her showed that she realised this. She did write about solutions which she then pointed out are not economic in New Zealand, and ended by saying that future research would look into what is economically viable - hoping for another five million dollars which is what her one cost us as tax payers.

Pete Hodgson, who was Minister of Energy, Fisheries, Forestry, Crown Research Institutes, Science and Technology and more recently Cock and Bull, repeated the above, showing that he also hasn't a clue about farming, because Sulla and Lotuses will not last more than a year in a grazed pasture, and they are very low yielding. Farmers would go broke faster than they are now.

Have these bright sparks thought of how farmers could change their existing steep hill country pastures to comply with the recommendations and survive with the resultant lower pasture and animal production from then on?

The above assumes that methane is a real pollution problem, but is it?

New Zealand animals produce 0.34% of the global methane emissions (Dexcelink Spring 2003).

I see it all as another non-tariff cost to our farmers, who are now expected to pay for researching it.

The 2003 Dairy 3 paper from AgResearch Grasslands and Massey University pointed out that if our farmers fed grains and silages to produce less methane, their growing and harvesting would take twice the land area, and produce four times more carbon dioxide (CO2) equivalents.

There are many more inaccuracies and deceptions written about by the media without being corrected. Our minister of agriculture and his MAF staff should make it their job to correct and balance these. One example is that in USA it takes 280 gallons (1,120 litres) of oil to produce a feedlot beef animal of dairy cow to maturity (National Geographic June 2004). Grazing animals will use only a fraction of that including their last ride to slaughter. The NZ figure in total (fertilisers, transport, silage and/or hay) is only about 100 litres per fully grown beef or cow, and on pollution-free dense pasture.

Also, and most importantly, the world wants animal products from free-range, pasture-fed animals and poultry. These fetch a premium in some countries because of the lower fat levels and higher conjugated linoleic acid levels than grain-fed beef and dairy products. New Zealand free-range eggs are selling in California at 12 times more than the local Californian eggs - partly because NZ is free of genetic modification. One NZ producer, Graeme Carrie of Free Range Egg & Poultry Company (Frenz) earned NZ$1 million (US$700,000) in 2006 by sending a quarter of a tonne of eggs a day and selling them at US$12/dozen, while local battery eggs sold for US$1/dozen.

There are USA free-range eggs, but they sell at about US$6/dozen because some are not free of salmonella. Salmonella bacteria live in the intestines of people, animals and birds. People can become infected with salmonella by eating foods that have been contaminated by faeces, which is more common, where animals are congested at any time of the day or night.

The ruminant digestion problem seems to be out of Jim Sutton's hands, but if, as Minister of

Agriculture, he is concerned about farmers and methane pollution, he should get realistic "farmer useful" research going.

A major problem many Auckland Province farmers have had in the last few years, is clover root weevil which came through our border control chasms, which have let in half a dozen pests in recent years.

So, through no fault of farmers, clover root weevil has reduced clovers in their pastures causing pasture production to decrease, and methane production to increase.

Farmers have formed several of their own research and information groups to try and control clover root weevil.

Research

Regarding who should pay for research, it is obviously the government which signed the crazy, bureaucratic and impossible to manage, Kyoto agreement.

At the time of signing we were told by this government that New Zealand would gain financially, so that is where the research funds can come from, and to pay animal farmers for the good their pastures do in using CO2, compared with the billions of hectares used to grow crops in the Northern Hemisphere in particular, where cropping soils are exposed to the elements for much of each year, losing CO2.

Our animals may (and may not) produce half our greenhouse gases, but on a world scale that is nothing - 0.34%. USA is the world's biggest polluter by far,. The USA, China and Australia, three large countries, are not Kyoto signatories.

There are about 500 million cattle in the world. We have 9 m. USA has 100 m, and India has 205 m and 84 m buffalo. Australia has five times more cattle and three times more sheep than we have, so what is wrong with our government?

What are the other countries doing about methane? USA creates 25% of the world's pollution.

The fuel used to cultivate, harvest and feed Northern Hemisphere animals is also a colossal polluter.

A question I'd like to ask is how they measure and record methane gas in kilograms when it is lighter than air?

My conclusion is that we have some vegan and greeny researchers creating jobs for themselves and feeding tripe to politicians.

There are far more important things our researchers and politicians should be doing.

Research conducted by the University of Manitoba showed cows fed a grain based diet produced less greenhouse gas than cows fed a forage or grass based diet. The high fibrous diet, which is the grass diet, will produce higher methane mainly because it's hard to digest so it needs to stay in the cow for longer and the bugs in the cow need more time to digest it meaning that there will be a higher amount of methane produced from those cows. That is on their long grass, not New Zealand clover based lush high energy green pastures.

What the critics ignore is that the clean burning methane gets burned up by lightning as shown above. See Pollution > Methane.

Fuel burning factories and coal burning homes are much bigger polluters.

Summary

Carbon (C) is an essential constituent of biological life on earth. Most C on earth is not in living organisms but is present in vast amounts in rocks such as limestone, and in dead organic matter. For terrestrial ecosystems, there is more C in soil organic matter (SOM), than in the living plants and animals, and the atmosphere. It has been estimated that soil contains 1,200-1,550 Pg C to a depth of 1 m, and 2,370-2,450 Pg C to a depth of 2 m.

Comparative estimates of organic C contained in living biomass (560 Pg) and atmospheric CO2-C (760 Pg) indicates that a small shift in the soil organic C pool has the potential to have a significant impact on atmospheric C concentrations.

Organic matter helps soils to retain and store water and plant nutrients, to resist erosion, form stable aggregates, improve water infiltration and drainage, and provide a food source and habitat for soil dwelling organisms. The C in organic matter is from a complex mix of different compounds that is undergoing constant change as fresh organic matter is added, and organic matter decomposes. Once lost from the soil organic C pool, replenishment can take many years, even centuries.

For New Zealand soils the total C content, measured by high temperature combustion, provides a reliable measure of the organic C content. Important considerations for estimating C stocks in a soil are a representative sample, the depth of sampling and bulk densities.

This literature review summarises the impacts of different land uses namely pasture, arable and horticulture on soil C levels. It also covers options for increasing C sequestration in soils through adaptation of soil and crop management and organic inputs, soil C as a soil quality indicator and emerging approaches for valuing soil C.

Current carbon dioxide levels in the atmosphere are well below those that are optimal for plant (and thus animal) life.

Carbon dioxide is the breath of life for all food production. It is a suicidal policy to waste real resources, reduce food production capacity and increase energy costs in attempts to reduce the availability of free aerial plant food.

The Carbon Cycle may be understood by Jeannette Fitzsimons but not its implications. Carbon is virtually an insignificant proportion of our greenhouse gas when compared with water vapour. The desired infinitesimal change in CO2 levels will have even less influence on our climate than 100 ml of rain.

Methane, a natural bi-product of animal's digestion, is stable, or reducing, in the atmosphere, not increasing. So disregard this as a threat!

Please, don't suggest reducing the carbon dioxide or encourage a government carbon tax, because in time we'll all starve!

If only 10,000 medium sized farms in USA converted to organic farming, they would store so much carbon in the soil that it would be equivalent to taking 1,174,400 cars off the road, or reducing car miles driven by 14.62 billion miles.

Converting the USA's 160 million corn and soybean acres to organic production would sequester enough carbon to satisfy 73 percent of the Kyoto targets for CO2 reduction in the USA.

USA agriculture as currently practised emits a total of 1.5 trillion pounds of CO2 annually into the atmosphere. Converting all USA cropland to organic would wipe out agriculture's massive emission problem and by eliminating energy-costly chemical fertilisers, it would actually give USA a net increase in soil carbon of 734 billion pounds.

What are they waiting for?

Planted and harvested trees only store CO2 until harvested. Pasture does the same more quickly and when correctly limed and fertilised and grazed, improves by increasing organic matter and earthworms numbers which turn the dead Facial Eczema causing thatch into humus.

People usually associate carbon with trees, but 82% of carbon in the earth's biosphere is in the soil which hold three times as much carbon as the atmosphere and over four times as much carbon as all vegetation. This makes soil the largest carbon sink over which farmers do have control.

The carbon discussion is always associated with global warming.

World average temperatures rose until 1998 and have been cooling since then. 2006 was the coldest year this century. The January 2008 world average temperature was the same as in January 1900. The crooked warming promoters published temperature figures to 1998.

Without carbon the world would be in trouble.

The gloom predictors know nothing about history or geography or they would know about ice ages and warm periods when the Vikings could salesail across the Arctic. If the stirrers don't know those things, how can they be believed, except by those who see ways of making money out of the global warming sham - marketing wind generators and biofuel factories. Biofuel production uses tractor and transport fuel.

The media is a problem. They tell us when the Arctic melts, but not when it freezes over again, as it has. They tell us about Antarctica melting, but not that an icebreaker reported thicker ice in 2007 than he'd ever seen there.

When very young I learned to be aware of why people said things. The very vocal people (for example sales reps) are usually pushing their point of view. Many of those with strong opinions are doing so in order to make money and this has been found with the carbon pushers.

Some scientists exaggerate reports to support their gravy train, and the annoying part is that New Zealand will have to pay for any so-called damage, when its contribution to pollution is negligible.

Trading carbon all wrong

The buying of carbon credits shows how hollow the Kyoto agreement is. If they were sincere they would not condone it. They should be forcing the polluters to stop polluting.

On the internet there are many expressing concern about CO2 rising, and others showing that it is not

rising. Some have shown that higher CO2 levels will increase vegetation growth. They get no benefit for saying so. There are others claiming that plant growth will decrease, but they could belong to the money makers because it is untrue.

Some show graphs of CO2 increasing and claim it will increase world temperatures. If that is the case why was 2006 the coolest in a hundred years? They can't have it both ways.

NZ MAF and NIWA wrote this year, "The temperature of the earth's surface has risen over the past 100 years."

MAF information came from NZ National Institute of Water and Atmospheric Research (NIWA) so I checked their own figures which showed no warming, so I emailed them in February 2008 and asked for the figures to prove this - no reply. I then asked their staff member for the figures - no figures came. I also asked them how soil carbon will be measured on all farms in the country - no reply.

As tax payers, we pay their salaries. From what I've seen and heard, their whole department could be closed.

Figures and graphs show that temperatures rise ahead of CO2 increases, not the other way round, so CO2 doesn't cause warming. CO2 and other gases actually help keep the world cooler.

The greenies are trying to wreck the world by falsely claiming that carbon dioxide is a problem.

Some greenies are sponsored by some of the money makers. A wealthy contact told me she donates to the Greens.

These things should be promoted by farm groups with explanations that pastures consume CO2 and that the organic content of soils under grazed pastures go up, as they do, it is stored carbon which is a carbon credit.

Farmers get blamed for everything by the jealous townies, but good New Zealand pasture farmers are increasing carbon in their soils under correctly grown clover based pastures. Urea fed pastures lose organic matter. Pumice soil farmers in the NZ Central Plateau (Taupo to Rotorua) started 60 years ago with almost no topsoil and now have 15 cm or fertile black soil containing about 8% organic matter.

Remove all the CO2, then beware of us melting, not just getting sunburned.

So that should close the CO2 discussion.

Inaccurate

Gloom predicting forecasters use computers and models with their own input to get what they want to prove. Al Gore has been shown to be wrong, so are many others. See the film or video "Global Warming or Global Governance?" by Michael C Coffman PhD, which are in answer to Gore's propaganda.

The weather offices are paid millions of dollars annually and can't get weather forecasts right two days ahead, so how can they or anyone forecast decades and hundred of years ahead?

Only a few decades ago the stirrers, including the media, predicted global freezing.

If CO2 in the air doubled it would make little difference.

We need CO2 to live, and for plants to grow, so increases would grow more pasture, which would be turned into animal manure and make deeper, higher organic matter soils. Greenhouse operators aim for three times the air level for fast plant growth.

Since New Zealand reduced methane and our ozone layer which we never hear of now, and some accused our farmers for making it, the air has become cleaner so the sun has become hotter with a higher burning effect. Overseas visitors are amazed by the power of our sun.

Burning is one of the largest producers. The ozone layer refers to a region of Earth's stratosphere that absorbs most of the Sun's UV radiation. It contains high concentrations of ozone (O3) relative to other parts of the atmosphere, although it is still very small relative to other gases in the stratosphere. The ozone layer contains less than ten parts per million of ozone, while the average ozone concentration in earth's atmosphere as a whole is only about 0.3 parts per million. The ozone layer is mainly found from about 20 to 30 kilometres above earth. It varies seasonally and geographically.

From Tony Armstrong

Why NZ farmers will be reluctant to plant forestry to offset their carbon emissions -

1. Some USA corn is cattle feed. To replace the USA corn, farmers in Brazil and elsewhere are expected to fell more forest to grow their own corn to make up the shortfall. When the carbon released by those clearances is accounted for, corn ethanol produces nearly twice as much carbon as petrol so producing biofuel is a negative.
2. A study at the nature Conservancy in Minneapolis found that for every hectare of Brazilian rain

forest cleared to grow Soy for bio-diesel, more than 700 tonnes of carbon would be released. Over time when the roots decay the carbon saved from the bio-diesel would not be equalled for about 300 years (quoted from an N.P. article).

3. Methane levels are stable, so livestock are carbon neutral for carbon dioxide and methane. Methane and Nitrous Oxide are relatively short-lived and not a cumulative problem in the atmosphere and tend to be removed in rain or oxidised to carbon dioxide.
4. Livestock have not caused historical emission rises.
5. Forests are part of the problem not the answer.
6. Many farms are methane sinks and pasture soils are natural sequestering sponges.
7. Our plants will positively flourish with increased carbon dioxide levels. (Ideas gleaned from Michael Russell's recent Waikato Times letter.)
8. In John Mills' letter to the Waikato Times he quotes from university and Meteorological experts, Drs McClone, Clarkson and Fitzharris that carbon dioxide is only absorbed in a limited amount. If that at present in the atmosphere with all the radiation was doubled it would have little if any effect on climate.

End.

Countries like South Africa are suffering severe power shortages (day light power outages while some people are in lifts) because while they have plenty of coal and export millions of tonnes, they have stopped developing coal fired generators to appease the greenies.

The Al Gore propaganda has been shown to be false and reputable scientists like Dr Willem de Lange of University of Waikato have shown figures which prove there is no global warming.

The hot summer in the Waikato this year was because of no rain getting to us because of Chinese pollution. Their soot of large particles in the atmosphere make large drops of rain. The bigger the dust particle the larger the rain drop which cause more rainfall on the first hills that they encounter, i.e., Norfolk Island, Coromandel, Kaimais, Queensland, so Waikato and Victoria then get less rain.

Whether you're a global warming skeptic or believer, current bureaucracy is geared to penalise greenhouse gas producers, by always blaming farmers, even for the stagnant water symptoms caused by 9 hydro dams on the Waikato River, not by farmers at all.

The most potent, common greenhouse gases are methane (CH4) and nitrous oxide (N2O). Respectively, they are 25 times and 298 times more potent while methane is minus 25 than carbon dioxide (CO2), with ruminant animals being blamed for being one of the largest producers of both gases worldwide.

It is never mentioned that Methane is not a problem because it is inflammable so burned up by lightning (See page 2.) and in coal mine explosions!

Ozone (O_3)

Ruminants are blamed for being the largest producers, but swamps emit a lot and New Zealand was mostly swamps. New Zealanders drained the unproductive useless swamps (NOT just farmers - Western Heights suburb in Hamilton, was half swamp).

What were previously swamps now produce the world's lowest-cost, high protein, foods to feed the protein deficient hungry world.

Ruminants grazing pastures have a healthier digestion so make less methane than those fed grains, PKE and other supplements. Unfortunately the initial ruminant methane figures were from USA which are much higher than our clover based ruminant levels.

Farmers face a growing mountain of compliance and administration rules. One way to stop them growing is farming correctly in an environmentally sustainable way. With regard to greenhouse gas emissions, both nitrous oxide and methane can be reduced in several ways by applying LimePlus when needed which promotes clover production. Research shows that increasing the clover content of pasture from 0% to 30% DM reduced methane emissions from 6.8% to 5.8% - a fifteen percent reduction.

There is a relationship between methane formation in soils and calcium saturation. If the organic matter in soil, such as peat, is correctly saturated with calcium, there will be a change from fermentation to oxidation with methane reduced.

2012 Australian research shows liming of soils can significantly decrease carbon dioxide and nitrous oxide emissions. A 2001 MAF report also predicted that "lime management and improved drainage could yield reasonable reductions in N2O emissions".

This information has not been promoted to farmers.

International Agricultural Consultant Vaughan Jones, author of GrazingInfo, is a lone voice on agricultural lime in New Zealand. He has shown the 53 benefits of applying up to five tonnes per hectare (only 2 tons of lime per acre) of the best quality agricultural lime with serpentine, a slow release magnesium citrate, OrganiBor, a recent slow release boron, and other synergisms explained in GrazingInfo. The use of slow release natural reactive phosphate fertilisers is essential to reduce the underground pollution already caused by superphosphate and urea. New Zealand soils are overloaded with 'fixed phosphate' which correct LimePlus and make it available, so reduce acidity.

There is much more to the correct use of lime (Read Calcium in which is dependant on its many synergisms to achieve the best results of improving soils, pastures with large healthy clovers, completely eliminating warts in cattle and facial eczema in ruminants.

Vaughan Jones discovered and proved this in 1958 and David Musgrave of MAF in Palmerston North confirmed it in the 1960s, but very few use it, mainly for commercial reasons and through a lack of reading the full information in the www.vaughanjones.info eBook Join Grazinginfo.com to read the the only full description in New Zealand. It sets out the 53 benefits of fertilising with LimePlus where farmers can access more on its correct use.

The 260 chapters of information in this eBook, has a chapter on drainage showing that it is still inadequate on many NZ farms, and on the two DairyNZ Lye, and Scott DairyNZ farms. Improving drainage is one of the easiest ways to increase pasture DM growth and profitability, and to reduce methane and water pollution. LimePlus onto pastures that have not had any for decades, doubles its production. This includes LimePlus applied on the surface of good pastures in peat soils, showing that DairyNZ and the establishment are horribly wrong again.

Vaughan Jones

Author and International Agricultural Consultant & Journalist.

ONZM Queen's Honour in 2013, for services to farming. 99% in Dairy Farming Award in 1948. NZ Dairy Board winner of the 1959 Most Improved Dairy Farm in the Waikato Award in 1958. Represented New Zealand at Agricultural Journalist Congress in USA in 1992 & Austria in 1994. Author and MD of the charitable www.grazinginfo.com and eBook since 1970, with 520 members, made free, to help farmers, and to promote the farming software and 300 chapters of practical organic & other information on farming, vegetable growing, and 70 chapters on Human Health.

NZ M.Mkt Institute founder and first chairman. Doubled sales, and exports for many companies making my inventions, including Gallagher Group, New Zealand, from $4m to $24m in four years.