**A climate law like the Zero Carbon Act is important because...**

It offers an opportunity to redefine the role of soil in farming practices.

**Long-term target**

I support the most ambitious target of reducing total greenhouse gases to net zero by 2050. I also support taking a science-based approach to ensure our efforts to reduce emissions are as impactful as possible: we should aim for negative levels of long-lived gases, while reducing short-lived gases to sustainable levels. This target should be reached by reducing our own emissions and not by using international carbon credits.

**Climate Commission**

I support the establishment of an independent Climate Commission that is made up of experts and provides advice, but does not make final decisions. I suggest renown retired Australian CSIRO scientist Walter Jehne chair this commission. After all we want the best, someone independent of NZ politics and a great communicator to explain to the public outcomes of the Commission's work.

**Adaptation**

I support a plan for adaptation being included in the Zero Carbon Act providing it includes soil carbon sequestration as well as trees. As climate heats up trees will become a less reliable source due to fire as is what is currently happening in California, USA.

**Climate justice**

A Zero Carbon Act must be just and fair in that it honours Te Tiriti o Waitangi; ensures a just transition for farmers, farm workers and rural communities; and avoids passing on the costs to future generations.

**Further comments**

This initiative must also include the role of soil for storing carbon by taking into account the multitude of public good benefits including reducing the frequency and severity of droughts and floods through improving hydrological cycles with higher carbon content, not just in topsoil but further down soil profiles. Overseas research focusing on benefits continues to be ignored in New Zealand by the science community.

Currently our understanding of soil carbon is poor in New Zealand being based on modelling rather than actual data as Professor Louis Shipper’s review of soil carbon showed last year. There are many benefits to our farmers from higher carbon soils including longer growing seasons, less irrigation, and less erosion. Emphasis needs to shift from reviewing industry level (dairy, sheep, beef, crop) to what farm practices (grazing, tillage, fallow) influence soil carbon dynamics which is a current flaw in NZ research and commentary.

The role of transpiring grasslands and pastures to mitigate greenhouse gases and heat dynamics also need to be explored. It seems the water molecule has greater flexibility to absorb heat than CO2 and this effects needs to be explained for the benefit of farmers and GHG emissions.