

Carbon flows a key ingredient within grazing management education programs

By Patrick Francis *(Written for Queensland Department of Agriculture 30 October 2014 workshop)*

This carbon flows workshop notice is accompanied by the preamble “The seminar/workshop will provide an opportunity to hear and discuss Mr Lauder’s research findings and recommendations on carbon flows and the need for a standalone carbon module within grazing best management practice training programs.”

There are two components to the preamble, one is that carbon flows is accepted as a concept to help explain to farmers about the outcomes they are seeing across their paddocks, the second is that the concept is incorporated into a carbon module within training programs.



Figure 1: When a carbon module encompassing carbon flows is included in extension tools like Grazing Best Management Practice farmers will more easily connect what they see happening in the paddock to livestock productivity and health, pasture productivity and resilience, soil health, and business success. *Photo: Patrick Francis*

I recommend that both be accepted and that the Carbon Module as proposed by Alan Lauder to explain all the processes carbon is involved in, be adopted across training programs such as Grazing Best Management Practice and Future Beef Grazing Land Management. By including this module farmers will begin to recognise that what they see happening with pastures over the year, irrespective of rainfall, reflects management of carbon flows across the property.

In the BMP program the Carbon Module will assist in providing connecting links to what are currently four comprehensive but disconnected modules that ignore the role carbon plays.

A 'carbon' word search within the modules comes up with:

- Grazing BMP animal production module - 0
- Grazing BMP animal health and welfare module - 0
- Grazing BMP soil health module – 9
- Grazing BMP people and business module – 2

In the Future Beef Grazing Land Management program carbon is mentioned in the context of carbon management for sequestration purposes. While carbon sequestration may be of interest to some farmers it is not the basis for understanding the links between livestock production, animal health and welfare, soil health and business success.

This disconnect is demonstrated in the GLM module Wet Season Spelling which explains “phases of pasture growth – buffel grass”. Despite the fact that the growth phases are about carbon flows through buffel’s life cycle, there is not one reference to carbon or soil organic matter.

In another GLM module “Link cattle numbers to grass supply” carbon is not mentioned and the authors make this statement:

*“The Far North Queensland beef team travel extensively across all districts and could easily fill out a ‘report card’ while driving along regional roads at 100 km an hour. How do property owners travelling around their own place daily not see what is happening and what they are putting their cattle through – extended periods of low grass supply or cattle starvation. We have to match cattle numbers with grass supply. No matter what the excuse, one thing is for sure – **starving cattle produce low returns**. Fewer cattle mean more grass, better condition cattle, more calves, higher weight gains and lower supplement and husbandry costs. Therefore, more profit. It’s a lot less stressful too.”*

This statement is in effect a cry for help from the extension officers involved. It’s not that the property owners don’t see what is happening, they do, and in dry times suffer enormous stress as a consequence. The issue is many don’t understand the fundamentals behind carbon flows in the paddock to make connections with their daily decision making.

The importance of understanding carbon flows as Alan Lauder describes them is that they are connected to all the BMP and GLM modules and need to be included in that context. Figure 2 demonstrates why.

The link between carbon flows and business success and minimising personal and family stress during dry conditions may not be as obvious as to the links it has with

livestock production and health, and pasture and soil health, but it is just as, if not more, important. Personal stress has the potential to destroy relationships between farming partners. In my experience on Moffitts Farm and talking to farmers who understand carbon flows, stress during dry conditions and drought is considerably reduced as the concept equips the decision makers with pathways that minimise the potential negative issues.

Figure 2 is also useful to highlight a false sense of environmental security provided by only paying attention to carbon stocks and ignoring carbon flows. As it shows carbon stock per unit area may be increasing via expanding tree growth, but carbon flows have been ignored creating negative issues for cattle production, cattle health, soil health and the owner's business.



Figure 2: In a variable climate understanding carbon flows, especially in pasture plants and litter, will help owners maintain cattle productivity and health, prevent environmental degradation, and ensure personal and financial stress is minimised. Photo: Patrick Francis

From the outset it is important to recognise that understanding carbon flows is not about advocating or supporting particular grazing management methodologies or ideologies such as set stocking, high input rotational grazing, time controlled grazing, organic farming or holistic management. It's a concept that pervades them all so it provides the universal foundation for grazing management education.

Finally, understanding and incorporating carbon flows into BMP and GLM modules has an important additional consequence for beef cattle marketing and consumer demand for beef. Consumers may not understand how carbon flows impact livestock productivity and health, and improvements to ecosystem services, but they do know they are important and want to be associated with them when purchasing red meat. Incorporating carbon flows knowledge as suggested by Alan Lauder into these education programs provides them with additional credibility needed to meet consumer expectations for ethical production.

Red meat marketers are keen to promote ethical characteristics for brands but in reality there is little credible basis at industry level on which to justify claims made, figure 3. The carbon flows concept if widely understood and applied by farmers will underpin many of the ethical claims already being made about beef.



Figure 3: Incorporation of carbon flows functions within grazing best management practice training programs has post farm gate beef marketing implications as it provides a credible basis on which to make red meat brand claims which an increasing percentage of consumers are looking for in respect of livestock health and welfare and environmental management irrespective of challenging climatic conditions. *Photos: Patrick Francis*

About the author:

Patrick Francis is an agricultural scientist who has a 42 year career in broadacre agriculture across Australia with 32 years as editor of Australian Farm Journal and its predecessor FARM Magazine.