

Nice to MEAT YOU

by **Alex Rose**

An overpopulated world comes with a lot of problems and one of the biggest ones is how to deal with feeding an exponentially growing number of human mouths in a sustainable way. Protein is of course a necessary part of a balanced and healthy diet, but what should we be eating to get that protein? And can it be sustainable? The answer, as you may have suspected, is rather complicated, but there are tools available to help us make better choices for the environment.

All meat is not created equal. As a general rule of thumb, the lower on the food chain you eat, the more sustainable it is in terms of net energy loss. Every step we take up the food chain from primary producers (plants) to primary consumers (herbivores) to secondary consumers (carnivores) and up from there represents a greater net energy loss. This is particularly true in aquatic environments but there are some notable exceptions in terrestrial systems. For example, with this logic, eating a cow would be a good choice because it is low on the food chain. However, cows are actually responsible for producing as much greenhouse gas as the entire global transportation industry making up for nearly 15% of all man-made greenhouse gas (GHG) emissions. Since the demand for red meat is expected to double in the next 40 years, this is an even more alarming statistic. Cows are particularly problematic because of the vast amounts of methane they produce, a GHG that is 25 times more potent than carbon dioxide. The 1.5 billion cattle on our planet are each belching

out 500 litres of methane daily, and doubling that number is not a sustainable option. So what should we do instead?

Here are a few things we can think about when choosing which animal protein to consume. Portion control is a big one. It is not that we need to stop eating meat necessarily, but that we need to reduce our consumption and the best way to do this is by eating less of it - red meat in particular. We can also choose to eat meat with a lower environmental impact. Through a technique called Life Cycle Analysis scientists have been able to put figures on the environmental impact of different meats. The worst offenders are the grass-eating, methane-producing animals. Cows release the equivalent of 16 kilograms of carbon dioxide for every kilogram of meat produced. Pigs and chickens, which eat a more mixed diet, are much better. Pigs produce about half as much carbon dioxide, and chickens are responsible for only 4.4 kilograms of carbon dioxide per kilogram of meat.

But it seems the perfect protein comes from the ocean. Mussels are low on the food chain because they are filter feeders, require little energy to rear, sequester carbon dioxide in their shells, have an overall beneficial effect on the marine ecosystem, and have a carbon footprint that is 20 times less than chicken and 50 times less than cattle. All the while they provide us with a source of meaty, nutrient packed, delicious protein. Perhaps instead of a fillet mignon, your next portion of protein should be served up on a shell. ○

