

Ferryport Group

Manufacturing and Training Consultants

112 Canada Drive
Cherry Burton
East Yorkshire
HU17 7RH
07903 189865
contact@ferryport.org
www.ferryport.org

‘Lean’ is the buzz-word in modern industry – taking the ‘fat’ out of the system. **Wayne Scott**

Ross argues, with a slight bit on his tongue in his cheek, that agriculture should be no different.

It’s not just the supermarkets who call the shots, the consumer still has a lot to say. Alright, we have over 400 types of apple in the UK and never see more than 5 or 6 on the shelves at any one time, but in times of recession the consumer looks for the cheapest option. That’s why sales of organic foods dropped by 13% and 12% in each of the last two years, home deliveries by 10%. Even bespoke bread sales were down, a massive 40%.

Cost is King, it seems. As the consumer shops for the cheapest option, the supermarkets squeeze the suppliers.

That’s where, from your own business point of view, lean production comes into play. Quite simply we look at what adds value to the process (the ‘lean’ bit) and we remove that which is waste, the ‘fat’. This traditionally reduces costs, keeping the profit margins a bit higher all round. You’ll know about economies of scale? A superdairy with 8100 cows in it automatically removes a lot of fat. Who cares if each cow isn’t individually named? Well, you probably do, but the supermarkets don’t, and so we get cheaper milk, centralised distribution and loss leaders.

It might not be such a bad thing. Let’s look at this attitude in much more depth, because the scene I am about to paint might be one of your own grandchildren’ yards in a few years time.

What adds value to a dairy cow? The things you put in - feeding her, keeping disease at bay - and the things you get out - getting her pregnant and milk.

What percentage of what you feed her actually goes into producing the milk? It's estimated from a variety of reputable sources globally that a cow is between 1.0 and 1.8 % efficient at producing milk. The vast majority of what goes into her comes out as faeces, urine or methane, around 63%. A third is used in just breathing. The remainder is used for tissue development – growing in other words. If there is less energy used on growing and moving, that means more can be put towards actual milk production, with less having to go in in the first place. This cuts costs.

As far as keeping disease at bay is concerned - mastitis, milk fever, ketosis, fatty liver syndrome, grass tetany, hardware disease, foot rot. Will I go on? Brucellosis, blackleg, pneumonia, physical damage, cancer eye, BSE, pink eye, worms. Foot and mouth. It seems that as soon as one cow looks at another the vet has to be called.

With my way of thinking, let's see the things you want to get out of a cow.

We have seen that feeding cows to produce milk is not very effective, and they are prone to a lot of diseases that are not necessarily affecting milk production, therefore, let's look at the 'fat' in the system. I will ask a few simple questions:

Do you own a bull? Probably not, since AI is commonplace. Infertility in a herd is a problem, but even a healthy cow will usually only deliver one calf, or if you are very lucky, twins. Cows with good mothering physiques can be subject to multiple embryo transfer, giving 5 or 6 calves.

Would you have thought that possible 20 years ago?

Most of the following *is* going to be possible through selective breeding and DNA manipulation.

The amount of room provided at the new superdairies is the equivalent to a human being in an average sized toilet compartment – why bother with that even? The Food and Agriculture Organization which is governed by the UN estimates that around 30% of the Earth's ice free land mass is either directly or indirectly involved in livestock production. They don't make land anymore, but tracts of it are being turned over to bio-fuel production resulting in famine and escalating food prices. The Earth's population in 1950 was 2.5 billion – it is expected to pass 7 billion sometime this year. How much land can be freed up if we factory farm our genetically modified cows?

Why do our cows need legs? There is no need for them to be outside as the superdairies have shown us and how many beef herds spend almost their entire life indoors? Why have a head at all? Most important functions are reflex therefore no brain is needed. Pre-mashed food stuffs can be directly fed through a tube into the first stomach. (It works with cockroaches and the occasional chicken.) A lot of this food can come from a wide variety of locations – grass from municipal parks, golf courses, football fields and so on. Other peoples waste that they would be glad to have taken off their hands. It can be mechanically and magnetically screened for hardware. The exact amount fed to the animal can be controlled and adjusted as required dependant on imminent sales orders. Pigs are given a controlled amount of food in most pig houses, so why not cows? Battery cages can easily be constructed to house them, tier upon tier of animals all fed automatically. Most of the common place diseases and husbandry issues can be automatically eliminated if we farm in sterile, closed and filtered environments, something that your average field is not.

Their faeces, urine and gas wastes will be massively reduced as less animal and less movement means less energy used and less respiration. Farm animals are responsible for 75% of all mankind's methane emissions, and methane is 24 times more potent as a greenhouse gas than

CO₂. Do you see where this is going? It is easier to stick a methane reclamation plant up each end of them if they are in one fixed location. This can be used to power a substantial amount of the overall plant, with the faeces and urine going into bio-mass units, along with any dead bodies – no brains, less BSE issues. In addition a massive reduction in waste per cow is easier to handle, store and dispose of.

Something as everyday now as embryo transfer would have been thought impossible by your own grandparents, as would so many other things. What would they have thought if you told them that Daisy, producing around 2300 litres per year in 1950, would by the year 2011 be producing over 9000 litres?

They'd have laughed and shook their heads, just as you probably have in the last few minutes.