



1. Value Chain vs Supply Chain
2. Dr. Thomas E. Elam
3. Ostrich Contributing to the Future Demand for Meat
4. Environmental Impact
5. Chemical and Pharmaceutical Contributions to Meat Production
6. Contributions

1. Value Chain vs Supply Chain

Agriculture used to be many small producers growing their produce or livestock and when ready they would take it to the market. Since the end of the 2nd World War there have been progressive changes in agriculture. The reasons for this are complex and regularly discussed through these newsletters. Also discussed is the need to understand the consequences and consider actions needed to be taken in any of our businesses based on ostrich are to be successful. In this context let us define The Supply Chain vs The Value Chain.

What is a Supply Chain?

A supply Chain is where each element of the process to the end consumer is defining their section of the process as the product.

What is a Value Chain?

A Value Chain is where there is collaboration between all processes in the supply chain to ensure that there is no leakage of value through poor performance of one link in that chain.

A Value Chain is an alliance of enterprises collaborating vertically to achieve a more rewarding position in the market.

Companies in a value chain are legally independent operations, but become interdependent because they have common goals and work collaboratively to achieve them. They work together over the long term discussing issues and troubleshooting problems together. It is more than just long-term contracting.

Take a look at the documents developed by the Alberta Provincial and Canadian Agricultural department web site <http://www.agfoodcouncil.com/serve/chainindex.html> They have developed some excellent documents to help producers understand these differences.

The changes in agriculture over the past few decades have meant that Vertical Integration in agriculture is essential for economic success. Building a "Value Chain" is a method of achieving Vertical Integration through collaboration and interdependence whilst retaining independence.

A quote from the UK Red Meat Industry support web site from an article title: "A Winning Team": <http://www.redmeatindustryforum.org.uk>

Quote: *Leading representatives from Tesco and ASDA will be speaking at the Red Meat Industry Forum (RMIF) conference in London on 2nd November 2005 where the results of the three-year initiative will be revealed.*

The retailers have played a major part in the Value Chain Analysis work that the RMIF have carried out to date. Their views on lessons learnt and on how the UK red meat supply chain will need to work in the future will be extremely valuable to those striving for success in this industry. End Quote

Another reason for the value chain approach is the increasing requirement for full traceability. Vertical integration can be achieved either by single companies having total control of all aspects or through the value chain approach where each sector remains independent, just interdependent working in collaboration with a common goal. That common goal optimises the value for all in the chain.

WOMRAD is the development of a "Value Chain" for Ostrich Production

2. Dr. Thomas E. Elam

Dr. Elam is a scientist from the United States who spent 23 years working as an agricultural economist for Elanco Division of Ely Lilly. His areas of expertise are Agricultural Production, Agricultural Marketing and Prices, Strategic Planning and Forecasting. This newsletter is going to focus on two papers, the opportunities they offer in the development of our ostrich industry and why it is important to recognise that our competition are the other species.

The two papers are "Meeting Growing Meat Demand While Protecting our Environment to be a Challenge" and "Fifty years of Pharmaceutical Technology and its Impact on the Beef we provide to Consumers." Both papers can be downloaded from the web from http://www.hudson.org/learn/index.cfm?fuseaction=staff_bio&eid=elamtom

Dr. Elam also wrote an article "World Meat Challenge - demand to increase by 50% by 2025" that was published in the Australian Farm Journal in June, 2004. This article was a summary of the two papers we will discuss. Our thanks to Bert Rayner, the Country Liaison for Australia for faxing the article as that led me to researching Dr. Elam and his work. The following is quoted from "World Meat Challenge"

Quote: "By 2025 total demand for animal protein will be more than 50% higher than it is today. In an era when many meat producers and their feed suppliers have struggled with periods of low prices and surpluses this kind of growth in demand is no doubt welcome "Challenge". In fact, the challenge in recent times has been more one of survival, not increasing production. But underneath the short-term difficulties facing us today there remains a global dynamic of steady growth in meat demand (and supply) the long-term effects of which should not be underestimated. The "Challenge" is how to produce all that extra meat with roughly the same feed and animal production land base that we have today. It will not be easy, but if we choose to expand cropped acreage and land used for meat production it would mean clearing forests, draining wetlands and disturbing other natural areas, bringing conservationists, environmentalists and others into even more conflict with farmers. It would also mean denying future generations the benefits of natural areas we enjoy today." End quote

The issues raised are:

- 50% Increase in human demand for meat protein
- Feed Production to support that production
- Impact on Environment
- Keeping Prices Affordable
- Livestock Production
- Improved Feed Conversion
- Natural Systems of Production
- The impact of Efficiency Failures

Dr. Elam's arguments, as coming from a pharmaceutical viewpoint, are that pharmaceuticals provide the solutions.

There are no single fixes.

The contribution of pharmaceuticals to agriculture to reduce costs of products by fighting disease and controlling parasites has been very significant. Some of the contributions are now recognised as negatives and unacceptable long term risks to human health - such as hormones for increased production and routine use of antibiotics to overcome poor management practices. The advances

made in the greater understanding of all the interrelationships of Vitamins and Minerals and the ability to produce these products to improve nutrient utilisation and treat many conditions have enabled the reduction in use of these negatives. This new technology is best known as Optimum Nutrition.

Twice Nobel Prize Winner Dr. Linus Pauling is quoted as saying "Optimum nutrition is the medicine of the future". That statement has been proven to be true with livestock also. With livestock, Optimum Nutrition covers not only basic health but also optimum production and product quality. Improved health, optimising production and producing high quality end products result in improved profitability for all in the "Value Chain".

WOMRAD utilises Optimum Nutrition

3. Ostrich Contributing to the Future Demand for Meat

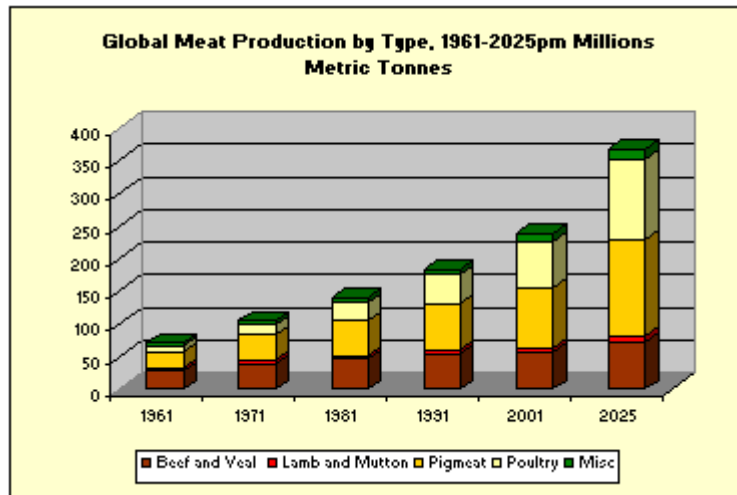


Figure 1 - Global meat Production by Type. 2025 Projected

Figure 1 shows the production growth by specie since 1961. Figure 2 demonstrates the percentage of the total of each specie and shows very clearly the contribution of Pork and Poultry in this growth and the loss of market share experienced by the red meats Beef, Veal, Lamb and Mutton over the period. Some of this loss of market share can be attributed to the advice to eat low fat meats; some of the loss of market share can be attributed to the lower feed efficiency of ruminants. Ostrich produce a low fat, red meat and are proven, where reared correctly to be the most feed efficient of these red meat specie, with excellent feed conversion.

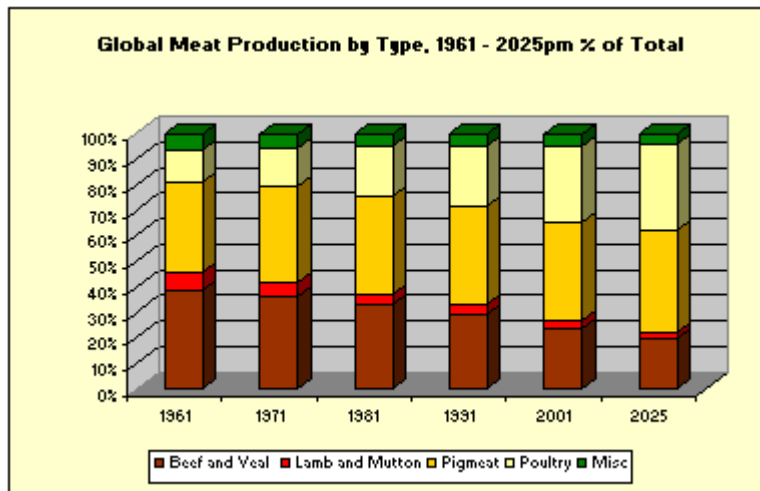


Figure 2 - Type Percentage of Global Meat Production

What do these tonnages translate into numbers of Ostrich required to compete?

The additional meat production is quantified at 130 million metric tonnes; 14% from Beef, Veal, Lamb and Mutton, 43% from Piguat, 40% from poultry and 3% from other specie, which will include Goat, Fish and other alternative meats including Ostrich. Note the reducing market share of the red meats. It requires 28 million Ostrich Slaughter birds producing 45 kilograms of meat to produce just 1% of that additional 130 million metric tonnes required.

Systems to optimise the production potential of Ostrich and move away from the current very low productivity, high levels of chick mortality, low meat yields and delayed slaughter are essential to be able to meet this challenge.

WOMRAD introduces proven Scientific Livestock production methods

4. Environmental Impact

Dr. Elam's discussions relate to making a case that the increased production can come only from intensive farming operations, that anything different will put too much pressure on feed supplies. Sheep, Cattle and Goats can graze areas that it is not possible to cultivate and it may be possible to improve the efficiency of these grazing areas with better management, including water management. These issues are discussed by Terry McCosker in the Australian Farm Journal.

However, it is clearly evident that the introduction of the intensive systems for rearing pigs and poultry has had a significant impact on the availability of increased volumes of meat at decreasing consumer prices as these systems are highly efficient. The increased use of Cattle Feed lots in the United States to finish cattle for the last 90 days on high grain diets has enabled the US Beef industry to produce increased meat tonnage from the same number of cattle. Dr. Elam stated:

Quote: ***"Current "organic" technology simply cannot be used to produce the feed crops we need on a global scale. Yields are 20, 30 or even 40% below what is possible with conventional fertilizers and pesticides, make it impossible to both increase feedstuff production and use these systems on a widespread basis. There is not enough animal manure to even come close to replacing the current sources of crop production. Switching to green manure legume crops for nitrogen would merely reduce the land available for feed production."*** End Quote

This statement is indicating that green legume crops have no productive value in the production of meat.

Ostrich require as much as 40% Dehydrated Lucerne in a grower ration, when the Lucerne is of the right quality, when fed controlled production rations. Lucerne is a legume and an important component in any crop rotation cycle as it fixes nitrogen in the soil, reducing the need for artificial fertilizers. Poultry and Pig production is highly dependent on grains to produce the meat, with little or no quality forage included in their diets. Therefore Ostrich production can help support the production of grain crops produced with reduced input of artificial fertilizers. The use of high quality Lucerne also reduces the requirement for high protein Soya, thus reducing costs of production whilst improving health and feed efficiency.

WOMRAD production depends on Lucerne Production to achieve profitability for the Producers

5. Chemical and Pharmaceutical Contributions to Meat Production

Dr. Elam discusses the major technological contributors that have enabled the dramatic increase in food production at affordable prices:

I. Pharmaceuticals; Animal health products and programs

Examples: Antibiotics, Implants, Parasiticides, Vaccines, Disease Control Programs

II. Genetics

Examples: Selective breeding programs, identifying most productive breeds

III. Nutrition

Examples: improved feedstuff quality, vitamins, minerals, amino acids

IV. Crop Yields

Examples: Improved management systems, artificial fertilisers, herbicides, fungicides.

All the above have contributed to the ability to produce increased tonnages of food at reducing cost. Questions are being asked now on the impact on human health and sustainability if we continue producing food with such dependency on the chemicals and many of the pharmaceuticals. Reduced efficiency of antibiotics as there are increasingly resistant strains of bacteria developing, hormone implants affecting the development of our children and parasites developing resistance to some Parasiticides are examples.

It is clear we cannot manage without some of these technological advances; however there have been significant advances in other areas that enable reduced dependency on pharmaceuticals and chemical inputs, without loss of production and increasing efficiency. Nutrition has made tremendous advances over the past 20 or so years that many health problems can now be controlled or prevented through nutrition rather than antibiotics. This statement applies to humans as well as livestock production. Antibiotics will still have a role to play in treatment but used with far more caution; vaccines will always have an important role as part of disease prevention programs.

As referenced above growing Ostrich require around 40% of their production rations to be dehydrated Lucerne - a legume. The ability to produce large volumes of meat efficiently from Lucerne will enable greater acreages to be planted with this crop that fixes nitrogen in the soil and forms an important part of any crop rotational program to reduce the dependency on artificial fertilisers. The development of No-Till agriculture is another technological development that continues to reduce the dependency on chemical inputs whilst retaining high volume of out put. No till agriculture uses less fuel with fewer passes over the land, thus reducing input costs without loss of production. Biogas technology is enabling better use of waste to reduce dependency on artificial fertilisers. All these factors are technological developments that combine to help reduce dependency on chemical inputs, without risking loss of production or increasing costs.

Ostrich can contribute to the increased meat production utilising the most modern ethical technology

7. Contributions

As always, I ask for contributions from Country Liaisons and other members. A sharing of your experiences, what is happening in your area - anything you believe that would be of interest to other members. Any contributions for inclusion in future news letters please send to Fiona at editor@world-ostrich.org.

Any comments or suggestions

Please post either to the members list woa@world-ostrich.org or Craig at secretary@world-ostrich.org

Ask not only what the WOA can do for you but also what you can do for the WOA.