LOW COST COW/CALF PRODUCTION

The Bulletin ***For Alumni Of The School***

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CAST

The Council for Agricultural Science and Technology, an international consortium of 38 scientific and professional societies, released a report[1] on Animal Agriculture and Global Food Supply. This, and other reports by CAST, is intended for use by governments in formulating policy. It is a good report for this purpose until you get to the section on grazing. These guys have only heard of highly seasonal, conventional grazing. You RFP'ers and HRM'ers should jump on the web site and start to inform the authors about what is occurring outside the ivy halls.

Population/Consumption

World population is expected to increase from 5.6 to 7.7 billion by the year 2020. The majority of the increase will take place in the developing countries where 77% of the people now live. The recent trend of increased per capita consumption of meat, milk and eggs is in the developing countries. Thus, demand for foods of animal origin is expected to increase more rapidly than total population. In the 80's, people in the developing world consumed just over one-third of the global supply of meat. Now they are consuming close to half and by 2020 will consume 63% of the total. The global demand for meat is expected to increase by more than 60% of current consumption by 2020. This includes a 91% increase in China. By 2020 the developing countries will produce slightly more beef, twice the pork and a fourth more poultry meat than the developed countries. Higher demand by developing countries is expected to increase imports from developed countries. This includes 13% of beef, 2% of pork and 8% of poultry production in developing countries.

Why The Demand ?

Per capita income is undoubtedly one of the most important factors. Throughout the world, as incomes rise, consumption of animal products increases until some "satiety" point is reached, as it probably has in the developed countries. Beyond bucks, there are the favorable contributions of meat, milk and eggs to health. Animal products are quantitatively important sources of energy and protein. In the US, animal products provide 27% of dietary energy and 63% of the protein. On a global basis the values are 16% and 36%, respectively. Further, animal proteins have higher digestibilities (96 to 98%) than plant proteins (65 to 70%). Still more are the biological values of animal proteins. The amino acid composition of animal protein is superior to that of plants. *The standard reference protein is egg protein and is set at 100*. The values of animal proteins range from 90 to 100 while values for plant proteins range from 50 to 70.

The Negatives

The cholesterol thang will be brought up by the do-gooders. The fact is that the favorable characteristics of animal products are based on strong, rigorous experimental data. The negative effects attributed to animal products are based on statistical inference. As yet, there is no experimental data establishing direct cause and effect.

Grain For The People

The proportion of the world's population that is undernourished is decreasing. There remain, however, 800 million that do not have an adequate diet. This could explain the push (by some) to feed the grain directly to the people rather than indirectly through the animal. For '97, it was calculated that animals consumed 74 million tons of human edible-protein and produced 54 million tons of human food protein. That's an input:output ratio of 1.4:1. The ratio of biological value of animal protein to that of plant protein is 1.4:1. That is a wash. Grain:product ratios are 3:1 for pork and 2:1 for poultry. Beef is a different story. Cattle have reached 50 to 70% of their final weight before they ever see human-edible foods. *As an alum of the School, you know this must increase for a ranch always to be profitable*. But using the 50 to 70% values, the grain:beef ratio is between 0.9 and 2.8:1 (based on final live weight) or between 1.4 and 4.4:1 (based on carcass weight). The food grains of choice are wheat and rice. The most important feed grain is corn. Corn yields substantially more grain per acre than do wheat and rice. Corn is consumed directly by people but it is not preferred. Corn ground is generally not suitable for rice production. So if grain is to be grown for human use, the corn ground would be used for wheat production. Shifting half of the 67 million acres of corn to wheat in the US alone would reduce total grain production by an estimated 55 million tons annually. Thus, the net increase in human food calories from this shift would be only a fraction of that projected from the assumption of a 1:1 replacement of feed grain by food grain. To force the conversion of feed grain to food grain, it has been suggested (not in this report) that animal products be taxed in the more affluent countries.

Can It Be Done ?

I'm the eternal optimist - so you know what I think. This report suggests that it probably can but only with government intervention into the management of pasturelands for foraging animals. This must be accompanied by increased technology. Chickens that lay more eggs, cows that give more milk and beef cattle that convert feed like chickens.

Rumors

"I thought the School spectacular and my nuclear family is going to use some of the knowledge you imparted on us." Thank you, John Heyneman, Wyoming.

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Linda Lynch-Staunton
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[1] http://www.cast-science.org