CONSUMPTION

Timeline of Events:

1960s

- producer driven [1]
- average household size is 3.33 [1]
- great middle class defined the American mass market [1]
- in 1966 poultry 19% of total meat, poultry and fish consumption [1]
- correlation between rising per capita income and increased per capita consumption of food from animal sources levels out[1]

1970s

- fast food restaurants, McDonald's
- microwave oven
- warnings issued against consumption of red meats, Framingham study

1980s

- average household size 2.62[1]
- 56.6% of women in labor force, "family meal" on the decline, "grazing" becomes a common eating style[1]
- in 1989, poultry reaches 32% of total meat, poultry and fish consumption [1]
- pork industry introduces "Pork - the other white meat" campaign

1990s

- target products at particular market segments (market breaking up along regional and demographic lines)[1,2]
- computerized market sales data [0]
- fewer and bigger supermarkets, deli and take out food sections greatly expanded [6]
- dominant themes quality, nutrition, safety and convenience [1]
- poultry consumption rose, beef consumption fell, pork consumption fell, dairy consumption fell (however cheese consumption increased), egg consumption in 90's fairly stable after previous decline, fish consumption increased [4,5] *(see graphs 4.1- 4.5)*
- Jeremy Rifkin publishes Beyond Beef (1992)

Trends:

- Demographic trends: slower population growth, greater ethnic diversity (Hispanics and Asians fastest growing groups) , aging population, more women in labor force, household size decreasing, slower growth in income, widening disparity in income distribution, population moving south and west. The implications of these demographic trends: total food sales and per capita consumption will not grow very much *(see graph 4.1)*, greater variety of ethnic foods will be consumed, elderly will increase demand for healthy nutritious food, and convenience will be a high priority. [1,6]

- Consumer driven [6]
- More ready to eat sales, eaten away from home and taken home [1,6] *(see graph 4.6)*
- Dietary fat and cholesterol consumers' top concern related to food. [7,25] *(see graph 5.7)*.
- Poultry continues as most popular meat. [1,3]
- Power changing to retail end because retailers receive the information about consumer preference first due to scanning technology and Efficient Consumer Response (ECR), which allows for grocery retailers, wholesale distributors, and manufacturer suppliers to be linked together electronically and cooperate closely in order to improve the efficiency of the entire food delivery system. This changes objective function from maximizing revenue to maximizing return on assets (profits over volume). Inventories will be leaner and distribution costs declining. [2,6]
- More farm production done under contract (ie. fast food industry) [2]
- Increased product differentiation, value added products, technologically innovative and environmentally friendly products [1,13]
- The Consumer Price Index (CPI) for food is projected to rise moderately, increasing at an average rate of about 2.4% from 1995-2005. This compares to a 3.1 % average rise expected in the CPI for all items, continuing a long-term trend of food prices increasing at slightly less than the general inflation rate. [10]

Uncertainties For The Future

- Effect of increased environmental awareness and "green labeling" movement. It is estimated that 50-60% of consumers base some purchasing decisions on environmental concerns. [8,9,11,12]
- Production of leaner meat products. Example is use of somatotropin to produce leaner pork. [14,15]
- Use of new technologies to improve meat tenderness. Tenderness is the most important palatability attribute of red meat. Examples are injection of beef with calcium chloride, and the Hydrodyne process, which uses a small amount of explosive to generate a shock wave in water which tenderizes the meat. [16,17,18,19]
- Increased market for novel low fat meat products. Examples are buffalo, goat, rabbit, venison, game, and wild birds. [20,21]
- Great market potential for food products that have altered nutritional characteristics but retain the quality and sensory attributes of the traditional product. Example: changes in animal feed which will lead to a healthier type of animal fat such as flax seed and other Omega 3 (n-3) fatty acid sources feed to swine and laying hens.[22,23,24] *(figure 4.8)*
- Fastest growing markets are upscale and discount (people either buy the best, or the best buy).
- Will declining number of teenagers be a problem, especially for fast food segment?[1]
- Role of government in the regulation of information about the attributes of food.
- Pull of government between consumer support and farmer support.
- Effect of information overload and desire for simplicity vs. increased complexity of life.

- Proportion of average household budget spent on food continues to decline.[1]

References

1. Senauer B, Asp E, Kinsey J. Food Trends and the Changing Consumer. Eagan Press, St. Paul, MN. 1991.
2. Kinsey J, Senauer B. Food marketing in an electronic age, implications for agriculture. Choices, Second Quarter 1997:32-35.
3. Huang KS. Price and income affect nutrients consumed from meats. FoodReview, January-April 1996:37-40.
4. Food Consumption, Prices, and Expenditures, 1997: Annual Data, 1970-95. ERS statistical bulletin.
5. Putnam J. American eating habits changing: Part 1 meat, dairy and fats and oils. FoodReview, September-December 1993:2-11.
6. Kinsey J, Senauer B. Consumer trends and changing food retailing formats. Amer J Agr Econ 1996; December:1187- 1191.
7. Schwartz NE, Borra ST. What do consumers really think about dietary fat? J Amer Diet Assoc 1997; 97 Suppl:S73- S75.
8. The Greening of Consumers. Food Marketing Institute, 1997. Washington DC.
9. Hendrix S. The good planetkeeping seal of approval. American Way, 78-86.
10. Food Prices and Expenditures. Agricultural Baseline Projections to 2005, Reflecting the 1996 Farm Act, Interagency Agricultural Projections Committee. February 1997:112.
11. Epstein SS. The chemical jungle: today's beef industry. International J Health Services 1990; 20:277-280.
12. Guest GB, Paige JC. The magnitude of the tissue residue problem with regard to consumer needs. J Am Vet Med Assoc 1991; 198:805-808.
13. ISO Easy website: www.exit109.com/~leebee/
14. Etherton TD, Kris-Etherton PM, Mills EW. Recombinant bovine and porcine somatotropin: safety and benefits of these biotechnologies. J Amer Diet Assoc 1993; 93:177-180.
15. Fox JA, Buhr BL, Shogren JF, et al. A comparison of preferences for pork sandwiches produced from animals with and without somatotropin administration. J Anim Sci 1995; 73:1048-1054.
16. Solomon MB, Long JB, Eastridge JS. The hydrodyne: a new process to improve beef tenderness. J Anim Sci 1997; 75:1534-1537.
17. Boleman SJ, Boleman SL, Miller RK, et al. Consumer Evaluation of Beef of Known Categories of Tenderness. J Anim Sci 1997; 75:1521-1524.
18. Huffman KL, Miller MF, Hoover LC, et al. Effect of beef tenderness on consumer satisfaction with steaks consumed in the home and restaurant. J Anim Sci 1996; 74:91-97.
19. Miller MF, Huffman KL, Gilbert SY, et al. Retail consumer acceptance of beef tenderized with calcium chloride. J Anim Sci 1995; 73:2308-2314.
20. James NA, Berry BW. Use of chevon in the development of low-fat meat products. J Anim Sci 1997; 75:571-577.
21. Glimp HA. Meat Goat Production and Marketing. J Anim Sci 1995; 73:291-295.
22. Van Elswyk ME. Comparison of n-3 fatty acid sources in laying hen rations for improvement of whole egg nutritional quality: a review. Brit J Nutr 1997; 78, Suppl.1, S61-S69.
23. Romans JR, Wulf DM, Johnson RC, et al. Effects of ground flaxseed in swine diets on pig performance and on physical and sensory characteristics of 15% dietary flaxseed. J Anim Sci 1995; 73:1987-1999.
24. Romans JR, Johnson RC, Wulf DM, et al. Effects of ground flaxseed in swine diets on pig performance and on physical and sensory characteristics and omega-3 fatty acid content of pork: dietary level of flaxseed. J Anim Sci 1995; 73:1982-1986.
25. Buzby JC, Ready RC. Do consumers trust food-safety information? FoodReview Jan-Apr 1996; 46-49.

CONS 1

CONS 2

CONS 3