

Whither and How Food Animal Medicine Approaches the Millennium

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We have had the advantage of hearing from Dr. Ed Jesse, Dr. Robert Cropp and Mr. Richard Catta, so we are better informed than only a few hours ago on the various --- and complicated, aspects of milk pricing and marketing, the shifting demographics of the dairy industry, and the challenges facing dairy producers in the years ahead leading us to the millennium.

Where will the food animal veterinary practitioner be in these coming years of change and challenge? What role will we play in helping to influence and shape the future of "our" dairy industry?

There are definite, discernible trends that suggest where we should be, and the role we should play in the years ahead.

We are probably all familiar with John Naisbitt's "Megatrends", published in 1982. Naisbitt outlined the background that enabled him and his colleagues to project the megatrends that would dominate the 1980's. They adapted an intelligence technique of the Second World War, where they simply reviewed a myriad of publications, "cut and pasted" on the basis of lines of print devoted to subjects --- almost regardless of the content of the story, and from that data, defined and projected the ten major trends of the decade.

Included in the ten major trends were:

- an industrial society transformed to an informational society
- forced technology becoming high tech./high touch
- a national economy expanding into a world economy

In review of the decade of the 80-s, we find little to contradict the above described trends. Now in "Megatrends 2000", Naisbitt suggests that as we enter this new decade the over arching trends (ten) that shall influence our lives include:

- a booming global economy in the 1990's
- the age of biology
- the triumph of the individual

Naisbitt points out that this is an increasingly interconnected world --- "events do not happen in a vacuum, but in a social, political, cultural and economic context." --- :

"The important thing is to craft your own (world) view, your own personal set of megatrends to guide your work, ideals, relationships, and contribution to society"

For the most part, the information and circumstances that describe the trends lead to opportunities. A review of the literature pertaining to food animal agriculture and veterinary medicine reflect trends "interconnected" to the (selected) world trends and shall indeed be shaped by social, political culture and economic forces.

In a review of my own library (1) of periodicals and newspapers, I've attempted to determine the ten major trends leading us inexorably to the year 2000.

At least on the basis of my own "cutting and pasting", the greatest lines of print (in descending order) have been devoted to:

- food safety --- most especially "milk quality" and all that is encompassed therein
- production medicine programs --- inclusive of record keeping and economics
- nutrition --- related to performance and disease
- reproduction --- with a strong emphasis on genetics as related to longevity and disease susceptibility
- replacement rearing --- heavy orientation to the environment
- and rapidly increasing concern about animal welfare, biotechnology, and the environmental impact of animal agriculture.

Perhaps there are no surprises in the foregoing list(2), but the very strong underlying trend is the shift from individual animal orientation, to prevention of disease, enhancement of performance and economic decision analysis, on a herd/flock basis.

1 - see Appendix: Journals/Papers

The titles of the articles reviewed in preparation for this presentation are included in the Appendix. In general, the cited titles represent about 10% of the articles of each category in my library. The titles which most define the trends are highlighted for emphasis.

Naisbitt properly states: "We are drowning in information and starved for knowledge".

Whither and how food animal medicine approaches the millennium? Our greatest opportunity is to be the purveyors of knowledge.

In strategic planning, we develop a mission statement; we assess threats and opportunities, strengths and weaknesses; and we establish goals.

I suggest our mission statement should read something like this:

"The veterinary profession shall become the major voice in providing the transfer of knowledge to the food animal producer, thus assuring food safety and industry profitability, with appropriate regard for animal welfare and the maintenance of the ecosystem."

What is the greatest threat within our own control? Nature abhors a vacuum -- the knowledge vacuum shall be filled. Perhaps the only threat will be the reluctance of veterinary academicians and individual practitioners to accept change --- to seize the opportunities and assume the mantle of leadership.

Knowing the cadre of educators and practitioners already in the forefront, I have no doubt the profession will meet the suggested "mission", and will enjoy unprecedented rewards in full realization of individual potential and economic gain.

What are our strengths? First and foremost is our veterinary education. Surely, the curriculums of veterinary schools/colleges require revision to enable the profession to better serve. Fortunately, we are not solely dependent upon that "formal" education. The continuing education programs of the AABP and like-organizations extend the learning of the basic sciences and individual animal medicine and surgery to practical, responsible herd/flock production medicine.

If we could accept the veterinarians education as a "given", then our greatest strength is that we are the professionals who are on the production unit far more than any others, and have the surest knowledge and experience pertaining to the successes and foibles of similar production units in the same locale.

What are our weaknesses? As the greatest threat, the reluctance to accept change is the greatest weakness.

If we could accept reluctance to change as a "given", then I believe our major weakness is a low sense of worth --- of self esteem. If we don't appreciate our education and our potential for contribution, we will aim too low, and fall for short. Too many tend to revert to a myopic perspective and beg off with "I'm not an accountant --- I'm not a nutritionist ---" yet they are often managing sizable financial resources in their own practices and personal lives, and have an almost incomparable education in physiology and the relationships of nutrition to disease.

Returning to three of the ten trends cited by John Naisbitt:

- a booming global economy in the 1990's
- the age of biology
- the triumph of the individual

From the clear trends we are experiencing in food animal medicine, I predict:

- the global economy will provide unprecedented opportunity for American agriculture
- the age of biology will enable U.S. agriculture to markedly increase profitable production and exploit new markets
- the transfer of responsibility and financial support from the federal government to state governments will hasten state services being provided on a user-fee basis
- the explosion of information shall accelerate the rate of specialization
- County Extension service will not be able to provide the specialization
- the emphasis of Extension will address socio-economic issues

- the County Agent as we have known the role shall no longer exist
- veterinarians shall continue the trend to specialization, but all of the disciplines necessary to fulfill the suggested mission statement will be within veterinary expertise
- the veterinary profession will be the dominant voice in technology transfer

The future for food animal medicine has never known a brighter future!

JOURNALS/PAPERS

Journal Dairy Science
 Journal American Veterinary Medical Association
 Hoards Dairyman
 Veterinary Medicine
 Compendium
 National Mastitis Council - Udder Topics
 National Mastitis Council - Proceedings
 American Association Bovine Practitioners
 American Association Bovine Practitioners - Proceedings
 Journal Dairy, Food and Environmental Sanitation
 Dairy Herd Management
 The Dairyman

ARTICLES

GENERAL

What's Happened to Dairy Demand?
 European Community Milk Quotas: Impacts and Implications
 Farm Bills Do Affect Food Animal Practitioners
 GATT Could Bring You \$7 Milk
U.S. Poised to be Major Player in World Dairy Markets
 How the New Zealanders Do It
 Europe's Milk Quotas --- Six Years Down the Road
How and Why Milk Production is Shifting
 The Milky States get Milkier
 The California-Wisconsin Duel
 Family Farming California Style
 Many Californians Support Controlling Milk Production
 Milk Flows Freely in the Rio Grande Valley
 Bloom is Off Texas Dairy Rose
 East of El Paso
 Methane Plant May Fuel Oregon Dairy Expansion
 Not Everyone Has to be Big
What Does Organic Mean?
Agricultural Extension Under Attack

ACCOUNTING

The Economic Value of Dairy Herd Improvement Information in a Sample of Midwestern Dairy Farms
 Determination of Optimum Drying Off Time for Dairy Cows Using Decision Analysis and Computer Simulation

The Use of Break-Even Curves in Decision Making

- Impact of Prices on Profit Functions in Dairy Cattle
- Toward Responsible Farm-Level Economic Analysis**
- Effect of Business and Dairy Herd Management Practices on the Variable Cost of Producing Milk
- Partial Budget Analysis of Vaccinating Dairy Cattle Against Coliform, Mastitis with an Escherichia coli J5 Vaccine
- Effect of Length of Calving Intervals on Income over Feed and Variable Costs
- Parameter Estimation of Milk Yield and Composition for 305 Days and Peak Production
- Cumulative Net Income Curve of the Dairy Cow
- Prospective for Genetic Improvement in the Economic Efficiency of Dairy Cattle
- An Economic Evaluation of Three Times Daily Milking of Dairy Cows
- Dairy Cow Culling Decision .1. Techniques for Evaluating the Effect on Herd Income
- Dairy Cow Culling Decision .2. Profitability and Genetic Trend in Herds with Culling on Production Versus Income
- Dairy Culling Decision .3. Risk of Culling on Predicted Income
- Influence of Production and Prices on Optimum Culling Rates and Annualized Net Revenue

PRODUCTION MEDICINE PROGRAMS

Milk Price Crisis Intensifies DVM Support to Producers

Feeding the World in the 1990s and Beyond: A Role for Veterinary Medicine

- Why We Don't (or Won't) Delegate
- Are you Successfully Marketing Production Medicine Programs for Your Clients
- A Form to Present Goals for Production Medicine Programs
- The Principles of Marketing Food-Animal Veterinary Services
- Dairy Production Medicine Changes Doctor/Client/Patient Relationship**
- Consulting, Preventative Medicine, Dispensing Future of Food Animal Medicine
- Developing and Marketing Production Medicine Programs for Dairy Clients
- These Dairymen Work Closely with their Veterinarians
- Veterinarians, Bankers and Livestock Producers Work Together**
- Veterinarians See Changes in Food Animal Practice; Growth Opportunities in All Areas**
- Profitability of Livestock Producer Hinges on DVM Input, Experts Say
- Future Looking Better for Food Animal Practitioners; Rules Continue to Expand
- Billable Hours Cornerstone of Increasing Dairy Practice Income
- Interrelating Dairy Production Medicine and Self-Image Psychology**
- Development of an Integrated Knowledge-Based System for Management Support on Dairy Farms
- Dairy Enterprise Analysis Model. Part I - Theory
- Dairy Enterprise Analysis. Part II - Practice
- Economic Decisions in Veterinary Practice: A Method for Field Use
- Developmental and Use of an Economic Worksheet to Assess Dairy Reproductive Health Program
- Use of Profit Equations to Determine Relative Economic Value of Dairy Cattle Herd Life and Production from Field Data
- Use of Automated Milk Yield Recording in Production Medicine - Parts I and II
- Risk Perceptions and Management Responses of Arizona Dairy Producers
- Incorporating Bar-Code Technology into Reproductive Health Programs for Dairy Herds
- Change of Milk Yield with Clinical Diseases for a High Producing Herd
- The Role of the Veterinarian as Production Management Advisor in the Set up and Use of Computerized On-Farm Record Systems - Parts I. and II.**
- Use of Dairy Herd Improvement Monthly Summary Data to Monitor Intervention Strategies in a Dairy Herd Experiencing Sub-Optimal Reproductive Performance and Reduced Milk Production
- Veterinarians Save \$1.7 Billion in Mastitis Losses

Production Losses from Mastitis: Carry-Over from the Previous Lactation
Expert System for Evaluation of Reproductive Performance and Management
Using a Specialized Computer Program to Track and Analyze Reproductive Health
in Dairy Herds

**Implementation of Nutritional Consultation Within a Dairy Practice
Report No. 17: Large Animal Nutrition - Sixty Percent of
Practitioners Counsel Clients on Nutrition**

When and How to Use Group and Computer Feeding Systems

Veterinary and Non-veterinary Costs of Disease in 29 California Dairies

Participating in the National Animal Health Monitoring System from 1988 to 1989

NUTRITION RELATED TO DISEASE

Controlling Mastitis Through Nutrition

Effects of Supplemental Vitamin A or B Carotene During the Dry Period and
Early Lactation on Udder Health

**Effect of Nutrition on Mastitis: Special Emphasis on Vitamin D and
B Carotene Function Relative to Mastitis Resistance**

**Path Analysis of Dry Period Nutrition, Post-partum Metabolic and
Reproductive Disorders, and Mastitis in Holstein Cows**

Meta-Analysis of Nutritional Risk Factors for Milk Fever in Cattle
Parturient Hypocalcemia in Jersey Cows Fed Alfalfa Haylage-Based Diets
with Different Cation to Amino Ratios

The Relationship Between Nutrition and Fertility in Dairy Herds

Effect of Beta-Carotene Supplementation on Reproductive Performance
of Lactating Holstein Cows

Infertility in Dairy Cattle Fed a High Percentage of Protein Degradable
in the Rumen

Effect of Feeding Gossypol in Cottonseed Meal on Growth, Semen Quality,
and Spermatogenesis of Yearling Holstein Bulls

Vitamin E and Selenium Help Prevent Retained Placentas

**Effects of Selenium, Vitamins, and Ration Fiber on Placental
Retention and Performance of Dairy Cattle**

Too Many Displaced Abomasums

Possible Association of Vitamin A Deficiency with Displacement of the
Abomasum in Dairy Heifers

Bleeding Abomasal Ulcers in Adult Dairy Cattle

Estrogen Induction of Fatty Liver in Dairy Cattle

Feed Correctly to Avoid Fatty Liver Problems

Influence of Sodium Chloride and Potassium Bicarbonate on Udder Edema and
Selected Blood Parameters

Responses of Dairy Cattle to Long-Term and Short-Term Supplementation with
Oral Selenium and Vitamin E

Feeding Yeast Culture Appears to Help Stressed Cows

Vitamin A and B Carotene in Host Defense

NUTRITION PROGRAMS

**Nutritional Consulting a Logical Extension of Services for
Veterinarians in Dairy Practice**

Be the Ultimate Nutrition Consultant - Food Animal DVMS Play Important Role

**Dairy Nutritional Consulting Provides Opportunities for Client,
Practitioner**

Veterinary Nutritional Advisory Service to Dairy Farms

Nutrition Management Programs for Dairy Herds

Cash Value of the Dairy Cow Predicted from Net Income Over Remaining Herd Life
Critical Nutrition

A Practitioners Approach to Nutrition

Body Condition Scoring in Dairy Cows: Relationships with Production,
Reproduction, Nutrition and Health

Use of Body Condition Scores in Grouping Lactating Cows

Body Condition Scoring Dairy Cows as a Herd Management Tool

Identifying Features, Performance and Limitations of Dairy Ration

Formulation Software: A Comparison of three Ration Formulation Programs
Practical Energetics in Lactating Dairy Cows
Patterns and Control of Food Intake in Domestic Animals
Maximizing Feed Intake for Dairy Cows
An Approach to Solving Feeding Problems on Dairy Farms

ENVIRONMENT

USDA Wants Environmental Strings on Dairy Refunds
A Short, Tight Leash

Environmental Problems: Who's to Blame?

An Ecological Analysis of Risk Factors for Postpartum Disorders
of Holstein-Friesian Cows from Thirty-Two New York Farms
What a View

Water Squeeze On in California

Chino Put on Water Quality Notice

***Green Movement Forges On: Legislative Barriers for Agriculture
Loom***

Water Quality: DVMS Pay Pivotal Role in Screening, Quality, Research