Veterinary Nutrition Service as Part of a Total Dairy Herd Health Program

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Summary

Delivery of nutrition services as part of a Total Dairy Herd Health Program will be discussed, emphasizing the economic effects on the dairyman and veterinarian. The reader is directed to other sources for details of ration formulation¹ and program delivery.^{2,3}

I. Introduction to our practice

The Homer Animal Clinic is located in the heart of central, up-state New York. Cortland County totals approximately 500 square miles and has a population of 48,000 people. 23,000 milk cows and 18 veterinarians thrive in this county. One of these 18 veterinarians practices exclusively small animal medicine; three practice exclusively dairy. The remaining 14 have mixed practices working on both pets and large animals.

Our practice is a three doctor, mixed animal practice. It has been approximately 50 percent small animal and 50 percent dairy for the last eight years. We have an AAHA approved small animal hospital. All of the large animal practice is ambulatory with surgery done on the farm as needed.

II. History of Nutrition Services at the Homer Animal Clinic

In 1977 we started performing hand-calculated rations for a select number of clients. Usually these were herds with specific health problems that could be controlled through nutrition management.

In 1979 I attended Dr. Tim Lesch's TI-59 Dairy Nutrition course at the AABP convention in San Antonio, Texas. The TI-59 became the stimulus for learning more about nutrition. It was an excellent learning tool, offering a fast method of doing ration evaluation and formulation. The TI-59 programmable calculator remains today as the nutrition computer in our practice.

III. The TI-59 AABP Nutrition Module¹

The production in 1982 of the AABP nutrition module has turned this good nutritional tool into an excellent one. The TI-59 module program balances dairy rations for fiber, energy, protein, calcium, phosphorus, magnesium and sulfur. Potassium, salt and vitamin levels are calculated by hand. Dr. Lesch's program gives you the capability of not only formulating a proper ration but also giving it to the dairyman in the form in which it is easily administered, including batch recipes and group feeding charts. Support programs of volumetric feed mill calibration, volume-capacity calculation, silo inventory calculation, mastitis economic analysis and feed value determination provide all the program tools necessary for successful nutrition service. This program can also be used to balance swine, beef, horse, sheep and goat rations.

IV. Total Dairy Herd Health Service

- A. Component programs
 - 1. Optimum Nutrition
 - 2. Mastitis control
 - 3. Reproductive efficiency
 - 4. Optimum ventilation and housing
 - 5. Parasite control
 - 6. Infectious disease control
 - 7. Sick animal medicine and surgery
- B. Administration

In order for a herd health program to be effective we believe the veterinarian should have, at least, major input and, and best, total control over all the above areas. The inter-relationships among the areas require the attention of one supervisory person for total success.

C. Goal

The goal of our Total Herd Health Program is very simply stated: "The most milk with the least cost per day of life." We have failed to find any of the component goals which cannot be encompassed in this overall goal. The goal of the veterinarian is to be associated with maximizing profits, not merely minimizing losses.

We have witnessed growth in the number of dairies looking for as complete a health program as possible. It is apparent that some dairies have spent considerable time and money on specific programs that address problems ranked second or third on their dollar priority list. It is important that we offer the right herd program from an economic perspective at the right time.

V. Our Approach to an Individual Dairy Analysis

Dr. Carl Osborne at the University of Minnesota teaches that there are three important phases in veterinary medicine: 1) Diagnosis. 2) Diagnosis. 3) Diagnosis. Diagnostic skills are the most difficult to teach, the most difficult to learn and the most valued in practice. After a diagnosis has been reached, often times therapy is easy. Identifying the areas of herd management that are the weakest constitutes our herd health diagnosis. (Figure A) If two areas rank above all others as money losers, the area which will return results most quickly receives priority attention. This facilitates the development of early confidence by the dairyman in the total program.

A. Records evaluation

Records are the foundation of preventive medicine. Without records there can be no preventive medicine; there can be no realistic goal setting and there can be no evaluation of progress.

Records evaluation consists of three areas on most farms:

- 1. Dairy Herd Improvement Records
- 2. Health Records
- 3. Financial Records

Figure A

Without DHI records our enthusiasm for tackling a new dairy wanes considerably because specific production weaknesses are impossible to identify. Benchmark figures must be set immediately so that later evaluation can show whether the dairyman's investment in us as a management tool has made him any money. Each dairyman is told immediately that if our program does not generate him noticeable economic differences, our marriage should be dissolved. He does not want me as a tool that costs money and gains him nothing. I do not want him as a poor reputation builder for Total Herd Health.

The New York Dairy Herd Improvement Cooperative (NYDHIC) records we find most useful include:

- DAIRY HERD PROFILE (bi-yearly): DHP contains retrospective data for the last 12 months broken down by lactation number, including days dry, breeding data, genetic data, lactation persistency, etc.
- HERD SUMMARY AND MANAGEMENT
- REPORT (monthly): HSMR contains rolling herd average, average sample day data and yearly averages for reproduction and feeding.
- GROUP MANAGEMENT REPORT (monthly): Sample day production and feeding data for each group in group fed herds.

HERD MANAGEMENT ANALYSIS								
From:	2-1-83 DH	I Yearly	Factors*	For:	John	Doe	Farm	

			Average Number of Lows:	
Factor	Average	My Herd	Lost Income	My Herd
Percent Days in Milk	87	86	\$15/cow/% below 83 or above 88	
Feeding Index	122	118	\$6/unit over 115 or under 111	\$ 1,980
Rate of Roughage	2.1	2.2	\$10/.1/cow under 2.5	\$ 3,300
Percent Net Energy From Concentrate	s 50	44	\$1.70/cow/% over 50	_
Percent Cows Calving April thru June	26.9	18	\$166/cow over 20%	—
Calving Interval	13.3	12.7	\$2.00/cow/.1 over 13 months	
Days Dry	62	57	\$4/cow/day below 41 \$6/cow/day above 50	\$ 4,620
Breedings Per Conception	1.9	1.5	\$1/cow/.1 above 1.5	_
Days Open	114	96	\$2/cow/day over 90	\$ 1,320
Percent Leaving Herd	33	34	\$300/cow over 25%	\$ 2,970
Average Age 1st Calf Heifers	31	35	\$30/heifer/month over 24 months	\$12,540**
Average Somatic Cell	400,000	396,000	Figuring \$12.00/cwt milk	\$ 8,028
Count or WMT	13	342	Total Lost Income — My herd	\$34,758
Northeast Average Lost Income/Cow	\$332		Lost Income/Cow — My herd	\$ 316

Adapted from: Henry J. Cook, Jr., Main Area Dairy Specialist.

- SOMATIC CELL REPORT (monthly): Individual and average SCC data for the last six months.
- SAMPLE DAY MILK WEIGHTS REPORT (monthly): Listing of sample day milk weights for cows grouped by month of freshening. Facilitates the appraisal of lactation curves. Averages for each sample day are given for first lactation versus all other lactations.
- ADVANCED INFORMATION MANAGER REPORTS (monthly): Dairyman requested, customized reports. Examples include cow grouping by total energy required for group fed herds, heifer breeding report, and reproductive culling.
- REMOTE MANAGEMENT SYSTEM REPORTS (as often as requested): A computer terminal with phone modem is used to access the NYDHIC main frame computer. This has helped immensely in properly assessing new herds that do not receive the auxiliary reports we desire.

Health records are very scarce on most dairies. We have the dairyman fill out a sheet (Figure B_1) listing incidences of health problems, often with only his memory for records. This form is compared to our Total Herd Health Goals (Figure B_2).

Financial records are very important because our main goal is to generate the most milk with the least cost. We especially appreciate computerized accounting systems, but often rely on total milk checks and total feed bills generated from checkbook records.

B. Animal and Environment Inspection

All groups of animals from baby calves to dry cows and milk cows are inspected. Special attention is paid to environment, animal comfort, body condition and coat appearance. Growth charts⁴ (Figure C) are often completed by dairymen after girth and height measurements are taken on a representative number of heifers. A picture is worth a thousand words when it comes to client education.

C. Written Summary Preparation

After intensive record studying, diagnostic ration analyses and consultation with the dairyman to set realistic goals, a plan is proposed. The plan consists of what we are going to do, when we are going to do it, how we are going to do it, and who is going to do it. An estimate for our nutrition service is included with the initial write-up that accompanies the diagnostic and therapeutic rations. The write-up includes a summary of onfarm findings, a summary of records evaluation results, a summary of health statistics, a statement Figure B₁

HOMER ANIMAL CLINIC DAIRY NUTRITION

Herd Health Data

Fai	m:		
Da	te:		
	3 month period from	to	
	12 month period from	to	
I.	Number of cows in herd:		
11.	Conditions associated with calving and lactation A. Number of cows with milk fever: B. Number of cows with ketosis: C. Number of cows with displaced abomasums (DA's):	3 month period	12 month period
	 D. Number of cows with retained placentas: E. Number of cows with foot lameness: F. Number of cows with cystic ovaries: 		
111.	Replacements A. Breeding 1. Average age at first breeding: n 2. Average weight at first breeding: B. Calving 1. Average age at calving: mont 2. Average weight at calving: mont 2. Average weight at calving: mont	nonths Ibs. hs bs.	12 month
IV.	Culling A. Total cows culled:		period
	B. Cows culled for reproduction:C. Cows culled for mastitis:D. Cows culled for low production:E. Cows culled for disease, injury:		
V.	Reproduction A. Is herd bred artifically, bull or both: Who breeds artificially:		
	B. Is this herd on routine reproductive herd checks: Yes No		
	Address:		
	Phone: () C. Average days to first detected estrus.		dave
	 D. Average days to first service (calculate): E. Average days open, all cows: (Consult DHI Herd Summary & 		days
	Management Report) F. Calving interval (consult DHI): G. Breedings per conception (consult DHI):		days mos.
VI.	Udder Health A. Is the herd Strep Ag. free: 3 Yes No	month period	12 month period
	 B. Number of cows with clinical mastitis:	······································	
	 Avg. bulk tank somatic cell count: (Consult DHI Somatic cell count summary) 		

VII. List health areas of special concern:

Figure	B ₂
rigure	D ₂

HOMER ANIMAL CLINIC

Total Dairy Herd Health Goals

Fa	rm:	3	month	period fro	m	_ to
Da	ate:	12	month	period fro	m	_ to
				3 month period	12 month period	Yearly Goals
1	. Number of cows in herd:					
11	 Conditions associated with calving and early lactation: A. Number of cows with milk fevers: B. Number of cows with ketosis: C. Number of cows with displaced abomasums (DA's): 					3% 2% 2%
Ш.	 Replacements (An average calf is worth more genetically than the average cow in a given herd) A. Number of calves: Total calves born: Of those the number kept to raise: B. Breeding: Average age at first breeding: Average weight at first breeding: 					14-15 mo. 750 lbs.
	 C. Calving: 1. Average age at calving: 2. Average weight at calving: 					Holstein 23-24 mo. 1100- 1200 lbs.
	 D. Mortality: 1. Born dead: 2. Died 1-30 days of age: 3. Died 1-24 mo. of age: 4. Total number that died: 					1% 1% 1% 3%
IV.	Culling rate: A. Total number of cows culled: B. Involuntary culling: 1. Reproduction as primary reason: 2. Mastitis as primary reason: C. Voluntary - cows culled for low production:					35-40% 5% 5% 25-30%
V.	Reproductive efficiency (consult latest DHI Herd Summary and Management Report). A. Calving interval: B. Number of breedings per conception: C. Average days open, all cows: D. Interval to first detected estrus (calculate): E. Interval to first service (calculate):		-			12-12.5 mo. 1.5-2.0 100 days 45 days 60 days
VI.	 Udder Health (complete all applicable): A. Number of cows with clinical mastitis: B. Subclinical mastitis: Average Wisconsin Mastitis Test (WMT): Average bulk tank somatic cell count: Individual somatic cell count distribution: (Consult DHI Somatic Cell Count Summary) Over 1,000,000: 500,000 to 1,000,000: 250,000 to 500,000: less than 250,000: 					8% 5 250,000 0% 5% 5% 90%



of financial benchmarks, and a prioritized list of suggested management changes to rectify identified problem areas. Prioritized "To Do" lists are often included for dairyman and veterinarian to facilitate early and orderly progress.

This write-up, unless a dairyman objects, goes to the dairyman's veterinarian and his feed company.

IV. Nutritional Economics for the Dairyman

There are three ways that dollar progress can be achieved on a given dairy farm through Veterinary Nutrition Services.

- 1. Decrease health problems
- 2. Increase production
- 3. Decrease feed costs
- A. Health Problem Reduction: Dairy Herd LW

In our initial attempts at nutritional service we often dealt with health problems. Because we as veterinarians were there treating the problem, it was a natural step to talk about prevention of further, similar problems. By minimizing something as dramatic as milk fever, the dairyman gained confidence in our nutritional ability and we could go on to tackle tougher nutritional problems.

This herd consists of 60 cows in a family owned dairy. They had been having a 15% milk fever incidence for several years. This particular season many individual milk fevers had been treated four or five times in a row. On the average they lost two cows to milk fever complications yearly.

On our first visit to the dairy farm we treated a cow for milk fever. Their regular veterinarian was out of town. We treated her four days in a row. The first three days we treated her twice a day. She would respond and rise and then go down again. While treating this cow the second time in 24 hours, we talked about their milk fever problem. They had concluded it was hereditary and were content to live with the problem as best as possible. We explained that their milk fever incidence was many times higher than expected and probably could be controlled through a balanced dry cow nutrition program. The cost of our ration balancing service would be less than the cost of treating one cow twice for milk fever.

A diagnostic milk cow ration was completed. The ration consisted of 20 lbs of first cutting grass hay and 2 lbs of an 18% dairy grain. Diagnostic ration analysis showed that energy was 13% low, protein was 24% low, calcium was okay and phophorus was 26% below requirements for dry cow maintenance.

The therapeutic ration consisted of 20 lbs of grass hay, 2 lbs of the 18% dairy grain, 1.5 lbs of 44% SBOM and 5 oz of a commercial allphosphorus mineral. The 18% grain, 44% SBOM and 5 oz of mineral were batch mixed on the farm to facilitate feeding ease. Two weeks after instituting the therapeutic dry cow ration we treated two cows with milk fever. Both of these cows were off feed, not down. Since then, this dairy has had approximately a 3% incidence of milk fever.

About six months after our initial dry cow nutrition work in this herd, I asked the dairyman's wife whether she thought the money spent on the ration was a good investment. Her answer shocked me. "The weight difference in the bull calves we've sold since the dry cow ration change has more than paid for the program." I had expected to hear about cows that milked better without milk fever problems, fewer retained placentas and over-all increased fresh cow health. Instead she produced the written records on birth weights for all of the heifer calves born in that dairy. The records showed that 22 heifer calves averaged 84.8 lbs at birth prior to the dry cow nutrition therapy. After the dry cow nutrition therapy 11 heifer calves, including one set of twins, averaged 100.3 lbs. She added that the cows had had no trouble freshening and the calves seemed stronger and had fewer disease problems early in life. I had never considered that increased birth weight of calves would be sufficient return on nutrition investment!

B. Decreasing Feed Costs: Dairy Herd SF

This herd consists of approximately 240 milk cows owned and managed by two brothers. There was difficulty in paying their veterinary bill. We presently provided only emergency type service for this dairy. Previously we had initiated a scheduled reproductive program, but expense was too great and the program failed.

Our nutrition service was requested when the Production Credit Association demanded that their feed cost be lowered before receiving increased loans. Their off-farm feed costs were lowered by a) utilizing by-product feeds; and b) eliminating protein over-feeding through constant ration balancing. Our services resulted in a direct savings in off-farm feed cost of \$18,000, a slight increase in production, improvement in reproductive parameters and a decreased incidence of displaced abomasums (Figure D). Each dollar invested in veterinary nutrition service reaped a minimum of \$12 for this dairy.

Please note that his overall veterinary bill decreased by 24%. Had someone else (feed company, mineral company, private consultant) offered a complete nutrition service, his veterinary bill would have decreased by 41%. Also note that an effective mastitis control program could have reaped more dollars for this dairy than nutrition control did.

Herd SF—Feed Cost

		1980		<u>1981</u>	CI	ange
Total off farm feed cost Feed cost as % of milk check Income, over, feed	\$1	52,800 36%	\$1	34,800 31 <i>%</i>	\$ 5	18,000 %
cost/cow/year Herd average milk	\$	1,132 14,914	\$	1,251 15,213	+ \$ + 2	5 119 99
Total veterinary expenses (less nutrition) Veterinary nutrition expenses Veterinary	\$	8,882 0	\$ \$	5,268 1,500	— \$ + \$	3,614 3,500
expenses/cow/year (includes nutrition)	\$	37	\$	21	- \$	68
Dollars lost to subclinical mas (WMT = 15-17) Displaced	titi \$	s 63,000	\$	63,000	C)
abomasum incidence Services per conception	12	2 of 242 8	3 1.	of 235 6	- 7 -	5% 2

C. Production Increase Example: Dairy Herd SC This herd consists of 60 cows housed in a tie stall barn. This herd had not analyzed any forages for 2 years. They fed equal amounts of high moisture shell corn to all milking cows. There was no planned dry cow ration.

Success in increasing production (Figure E) in this herd was brought about by feeding a blanced dry cow ration and by feeding the right cows the right amount of grain. We did increase his off-farm feed cost but income over feed costs went up dramatically. We raised his off-farm feed cost by \$8,000 but total milk receipts, after subtracting the Veterinary Nutrition Service cost, showed an increase of \$24,000 compared to the year previous. His income over feed cost rose 21% in one year. This dairyman reaped nearly \$70 for every dollar he spent on his Veterinary Nutrition Service.

VII. Nutrition Service Economics for the Veterinarian

A. Fee Structure

Our charging system started as a piecemeal charge of \$50 per ration. Initial ration work-ups

Herd SC—Production Increase

		3-81	3	3-82		Change
DHI Herd Average	3/	13,178 80-2/81	3/8	15,300 1-2/82	+	2,122
Off farm feed cost Total milk checks Off farm feed as % of milk checks	\$ \$	5,126 84,444 6%	\$ 1 \$1(12,917)8,803 12%	+ + \$	7,791 524,359
Total income over feed cost	\$	79,318	\$ 9	5,886	+\$	16,568
nutrition		0	\$	235	+ \$	235

included a diagnostic ration and \$50 per ration was not sufficient to cover the time involved. The fee was therefore raised to \$65 a ration for the initial diagnostic and therapeutic work-up and then lowered to \$50 for follow-up rations.

This charging system left much to be desired because it did not cover on-farm time, on-phone time, nor records analysis time.

We have progressed to an hourly fee for all the nutrition service work. Because first-time clients are nervous about hourly fees for yet unknown results, they are given an estimate which includes the ration work, on-farm time, and records analysis.

This charging system puts considerable emphasis on what we refer to as "front time and front money." The front time is ours, the front money is the dairyman's. It is not unusual for a first-time nutrition client from outside of our practice to spend \$300 to \$400 on the initial workup while the total year's service may amount to only \$1500.

B. Development economics

In speaking with other veterinarians who have attempted to launch nutritional services for their clients, we hear about the same obstacles time and again. Considerable time and effort must be spent acquiring knowledge and working skills before this type of program can be effective. This requires a willing partner or partners to allow for all the seemingly non-productive time spent in research and development. It takes a willing individual to tackle this new program and make it fly. Many hours during evenings and weekends are involved in getting such a program off the ground.

Once functioning, this service can be helpful in increasing the mutually beneficial client dependence we desire as veterinarians.

With fewer dairymen each year in this country it is important for practice viability that we either generate new clients or generate more income from each of our remaining clients. Nutrition service has helped in both regards for our practice.

VIII. Nutrition and Our Practice Economics

The Homer Animal Clinic has been a three doctor practice since 1976. Our practice gross increase has averaged about 10% per year for the last five to six years and looks as if it has slowed down in 1983 (Figure F). There are many factors changing our practice style. The most important of these we believe to be dairy economics. New York State data shows that cash income per cow and cash income per farm has decreased since 1979. Actual purchasing power of this cash has dropped more severely in the same time.⁶ Other factors important in changing our practice style are a practice herd health thrust that has encouraged owner treatment of routine problems and nutrition programs which have eliminated the bulk of metabolic disease in many herds.

Even though growth in total dairy generated dollars has remained fairly constant (Figures F and G), our number of farm calls has decreased (Table H). A 26% reduction in number of farm calls from 1980-83 has been accompanied by a 51% reduction in milk fevers, a 53% reduction in retained placentas, a 30% reduction in prolapsed uteruses and a 50% reduction in displaced abomasums.

In contrast, herd health has increased 172% and nutrition has increased 10-fold. Obviously this means the complexion of our practice has changed drastically (Table I). We do fewer early morning or late evening emergency calls. We put fewer miles on trucks, spend more time sitting at desks and get less physical exercise. We are more intimately involved with our dairies. We positively influence the total picture on each dairy to a greater extent than before. We derive more satisfaction from a service that necessitates more one on one client education. We rejoice in the feeling that all on-farm decisions can be met with a better understanding of the total economic picture on each particular dairy.

Figure F

GROSS DOLLAR COMPARISON

1980	1981	1982	1983*	
100%	111.4%	123.5%	125%	
	e 245 - 255 - 256 - 25	test of		

* extrapolated from 9 month Year to Date data

Figure G

% GROSS DOLLARS LA / SA								
1980	1981	1982	1983					
54/46	55/45	51/49	50/50					

CODE INCIDENCE

	1980	1981	1982	1983*
Farm Calls	2165	2061	1672	1601
Herd Health	171	406	426	465
Milk Fever	356	323	194	174
Retained Placenta	281	245	162	131
Prolapsed Uterus	43	23	15	30
Displaced Abomasum	42	50	48	21
Milking Machine Analysis	3	6	16	34
Nutrition	15	82	64	171

* All extrapolated from 9 months Year to Date

Figure I

CODE INCIDENCE AS % OF FARM CALLS

	1980	1981	1982	1983*
Herd Health	7.9	19.7	25.5	29.0
Nutrition	.7	4.0	3.8	10.7
Milk Fever	16.4	15.7	11.6	7.7
Retained Placenta	13.0	11.9	9.7	6.2
Prolapsed Uterus	2.0	1.1	.9	1.9
Displaced Abomasum	2.0	2.4	2.9	1.3

* all extrapolated from 9 months Year to Date data

Figure J

Diseases/Problems ranked in economic order by 32 dairymen

- 1. Mastitis
- 2. Infertility
- 3. Abortions
- 4. Dairy management
- 5. Calf diseases
- 6. Foot rot
- 7. Nutrition
- 8. Clostridium infections
- 9. Infectious Bovine Rhinotracheitis
- 10. Miscellaneous

Figure K

We feel that total herd health is right up the veterinarian's alley. As a profession we now have the tools to implement a total program. We need to educate ourselves so that we can effectively use these tools to further client dependence on excellent veterinary service.

IX. Why the Dairy Industry Does Not Make Greater Use of Veterinarians⁵

We offer a study done by Goodger and Ruppanner in Tulare County, California, to further the stimulation our profession needs to get our Total Herd Health Services in full gear.

Thirty-two large scale dairy operators were interviewed in 1979. They were asked to list diseases and/or problems and rank them in economic order as they perceived them. As you can see by the chart (Figure J), mastitis, infertility and abortions were ranked first, second and third. Nutrition ranked seventh. Veterinarians were consulted as only 7% of the sources in nutrition (Figures K and L). When asked to list their current veterinary services (Figure M), the breakdown was 1) infertility, 35%; 2) mastitis control, 31%; and 3) breeding management, 21%. These three areas totaled 87% of present veterinary services. This is compared to the services they expected to utilize in the future: infertility, 25%; mastitis control, 13%; and breeding management, 14%. These three will then total only 52% of all veterinary service.

From these thirty-two dairymen we see a drastic change in demand for services from us as dairy veterinarians. While they listed nutrition as seventh in their list of economically important problems, these dairymen tell us that in the future they will utilize our nutrition services as 22% of our total service package (Figure N). This would take us from the present fourth choice source on nutrition, representing 3.5% of veterinary services utilized by these dairymen, to providing nutrition services as 22% of our total service package. We must prepare our profession for this

Use Frequency of 10 Sources by 32 Dairymen

Problem Areas

Source	Infertility	Mastitis	Breeding Management	Dairy Management	Nutrition	Business Management	Total	%
Veterinarian	30	26	18	8	3	0	85	32
Dairyman's Cooperative								
Creamery Association	0	8	0	19	19	7	53	20.
Accountant	0	0	0	0	0	22	22	8.
Extension Service	0	3	2	7	3	3	18	6.
Feed Representative	0	2	2	3	11	0	18	6.
Inseminator	4	0	13	1	0	0	18	6.
Nutritionist	1	1	3	5	7	0	17	6.
Banker	0	0	0	0	0	16	16	6.
Neighbor	1	1	3	3	1	4	13	5.
Drug Salesman	0	1	0	1	0	0	2	
TOTAL	36	42	41	47	44	52	262	100.

Figure L

Veterinarians as %	of All Sources	
Area		%
Infertility	30/36	83
Mastitis	26/42	62
Breeding Management	18/41	44
Dairy Management	8/47	17
Nutrition	3/44	7
Business Management	0/52	0

Figure M

VETERINARY SERVICES Current Utilization vs Anticipated Utilization

Area	Now	Future
Infertility	35.3	25.0
Mastitis Control	30.6	13.1*
Breeding Management	21.2	14.5
Dairy Management	9.4	14.5
Nutrition	3.5	22.4
Business Management	0	10.5
TOTAL	100.0 %	100.0 %

* Most of this service is predicted to be laboratory

Figure N

VETERINARY NUTRITION SERVICE

Now	<u>,</u> Future
4th Choice Source	? Choice Source
3.5% of services	22% of services

change from mainly reproduction and mastitis services towards nutrition and business management services.

Goodger and Ruppanner state very well the problems and challenges facing our profession: "...individual animal emphasis in education and practice of the past 30 years has led to a narrow perception of the veterinarian," so that "...dairy operators do not understand the nature of services that veterinarians can provide." "The current use of veterinarians is limited in scope and not well coordinated with management decision making." The present challenge is to have our schools and profession work together to "increase the veterinarian's ability to function as a herd health and management advisor" so we can "ultimately change the perception of the veterinarian among dairy operators."

We can have a bright future as dairy health veterinarians. We must get turned on and get tuned up to meet the challenge of effectively serving a changing dairy industry with programs that pay. Veterinary Nutritional Service is one of these programs.

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POSTER PRESENTATIONS

Department of Physiological Sciences, College of Veterinary Medicine, Oklahoma State University

Oklahoma Animal Disease Diagnostic Laboratory

Oklahoma State Department of Agriculture, Animal Health Division

Oklahoma City Zoo

Oklahoma City Convention and Tourism Bureau

Oklahoma State Recreation and Tourism Bureau

South African Tourist Corporation



Poisonous plants (Dr. Burrows)



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Entries are judged by an AABP panel solely on the merits of the individual programs.

To obtain an entry form and additional information on this year's awards program contact: Harold E. Amstutz, DVM, AABP Executive Secretary/Treasurer, Box 2319, West Lafayette, Indiana 47906.

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