

HOW LARGE SCALE DAIRY OPERATORS VIEW VETERINARY SERVICES

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In the past twenty years, dairy herds in the United States have declined in number while increasing in size, becoming highly mechanized and operating on an increasingly narrow margin of profit per animal^{2,8} (Crane 1979) (Matulich 1978).

The shift from small to large dairies has meant increased emphasis on production efficiency, sound management of a large herd rather than a few animals, and on preventing contagious diseases which lower production efficiency without causing mortality⁹ (Morris 1969). The veterinarian trained with an emphasis on individual animal health care has thus played an increasingly narrow role in the management of large-scale dairies. Nutritionists, management consultants, extension scientists, inseminators, dairy herd improvement program consultants, data managers, economists and bankers have provided specialized services to the dairy operator, as the veterinarian is being replaced by the expertise of a number of highly specialized consultants, many without the veterinarian's understanding of the whole animal³ (Goodger, Ruppner 1982).

If veterinarians are to play a significant role in providing health care services to large-scale dairies, it is important to understand the factors which have led to the dairy operator's decisions to use other service providers. In this study, we examined several hypotheses concerning the decline in demand for veterinary services:

- 1) that large-scale dairy operators do not understand the nature of the services that veterinarians can provide (and that demand for these services would be higher if they did understand),
- 2) that the current use of veterinarians is limited in scope and not well-coordinated with management decision making, and
- 3) that newly-trained veterinarians do not have the background to respond to the needs of the large-scale dairy operator.

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MATERIALS AND METHODS

The California dairy industry has been a leader in the shift from small dairy operations to large-scale, highly mechanized dairies. Tulare County, in the central San Joaquin Valley, is an excellent representative of this shift. From 1930 to 1978, the number of dairy herds in the county decreased from 1,100 to 230 while average herd size increased from 31 to 440⁵ (Gurtle 1978).

An interview similar to one used in a New York study, was developed which would provide indicators of how large-scale dairy operators viewed the veterinarian's role in dairy management¹⁰ (Morrow 1967).

Following the initial interviews, thirty-two Tulare County dairy operators were selected to be interviewed. All operators had all-Holstein herds and Dairy Herd Improvement (DHI) production records. All were participants in cost analysis studies conducted by either the Bureau of Milk Stabilization Board^a or Agri-Tech Analytics, Inc.^b All used veterinary services. Appointments for one-hour interviews were made over the telephone, and either the owner or herdsman was interviewed in all cases.

In its final form, the questionnaire covered some forty items. Relevant to the purpose of this paper, the dairy operators were asked:

- 1) to identify whom they would consult if they encountered a problem in several areas (breeding, nutrition, mastitis, sterility, dairy management, business management) (would they consult with a neighbor, extension service, feed representative, inseminator, veterinarian, drug salesman, dairymen's cooperative creamery, accountant, nutritionist or banker--or any combination of these people),
- 2) to identify and rank in terms of importance the types of veterinary services they currently use,
- 3) to identify the animal health services they expected to need in the future (whether supplied by a veterinarian or not),
- 4) to state whether they would consider hiring a veterinarian on a retainer basis or full-time (in cooperation with other dairy operators).

Responses to questions were analyzed to identify factors which affected perception of veterinarians and use of veterinary services. Statistical analysis was done using Minitab II¹² (Ryan et al. 1978).

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RESULTS

Sources of Advice on Operations Problems

Veterinarians were the primary source of advice when problems involved clinical, animal health problems (Table 1). Operators did not indicate though, that veterinarians would be the sole source of such advice. For advice on breeding problems, for example, dairy operators indicated that they would seek advice from inseminators almost as frequently as they would from veterinarians (13 responses to 18 responses). Veterinarians were consulted most frequently for problems of mastitis (26 of 42 responses) and sterility (30 out of 36 responses).

Veterinarians were not the consultant of choice on matters of nutrition, dairy management, or business management. They ranked fourth on problems of nutrition behind the dairymen's cooperative creamery, feed representatives, and nutritionists. They were a distant second as suppliers of advice on dairy management problems. Operators did not indicate they used them at all for business management problems.

Types of Veterinary Services Used and Importance of These Services

The vast majority of the work performed by veterinarians (73%) involved fertility work, pregnancy checks, and emergencies (Table 2). Other services cited were: problem cows, vaccinations, sick cows and mastitis.

Future Demands For Health Services

Predicted demand for animal health services suggests a decrease in demand for services related to infertility, mastitis control, and breeding management and a corresponding increase in demand for services related to dairy management, nutrition, and business management. Need for nutrition services, for which the veterinarian is the fourth-choice provider, is seen as representing almost a fourth of all services needed in the future.

If veterinarians were the primary providers of all the services mentioned in Table 3, the change from current need for these services and perceived future need for them would indicate that a major change in dairy veterinary practice would be forthcoming. The perceived change in need, however, is away from services now being performed by veterinarians and towards those performed by other professionals.

Use of Veterinarians

Of the 32 dairy operators interviewed, 70% indicated they would use veterinary services more frequently in the future if veterinarians had more management skills; 66% indicated this would also apply if services were on a routinely-scheduled basis. Business management skills were not considered necessary for veterinarians by 70% of the dairy operators.

Even without any change in veterinary services, two-thirds of the operators were interested in arrangements involving several dairies hiring a veterinarian full-time on a cooperative basis. Of those who would consider hiring a veterinarian full-time, 57% would favor payment of a monthly lump sum, 29% would favor an hourly rate, 14% would favor payment on a per-head basis and none were interested in a salary-and-percentage-of-profits arrangement.

DISCUSSION

The wide variety of information sources used by dairy operators indicates that the operator either finds decisions difficult or is unable to find a single source of information about management problems and, therefore, tends to shop for information from numerous sources. The large number of information sources used points to a general need for expert advice on dairy management matters.

With a strong need for expert advice, the dairy operator is still limiting use of veterinarians to traditional individual animal treatment and traditional preventive medicine (pregnancy checks, fertility work and vaccinations). The veterinarian is not viewed as a primary source of information on nutrition, dairy management or business management -- despite the fact that the veterinarian could offer expert and disinterested advice in at least the first two of these areas. In short, the dairy operator views the veterinarian as having a limited role in the operation of the dairy, in particular seeing no necessary connection between management practices and veterinarians expertise. The fact that a high percentage of currently-used veterinary services involves highly technical services of a clinical nature suggests that the perception of the veterinarian as only a narrow-focus expert is strong (Table 2).

From an historical perspective, then, it would appear that the individual animal emphasis in veterinary education and practice of the past 30 years has led to a narrow perception of the veterinarian. The veterinarian would appear to be perceived as just one of many narrow-range experts providing services to the dairy operator--useful for certain types of problems but not generally consulted on others.

There are several implications of this narrow perception of the veterinarian. First, unless the trend is reversed, a further decline in the use of veterinarians in large-scale dairies would be expected. Inseminators are already viewed as sources of breeding information, and nutritionists and feed representatives are consulted on matters of nutrition far more often than veterinarians. Second, the dairy operator, relying on those with narrow specialization and often with a clear vested interest in the advice they give, will be increasingly cut off from the more broadly educated and disinterested veterinarian. The veterinarian's understanding of the relationship between production and a variety of herd health factors is not currently being exploited by dairy operators who use veterinarians as they use other skilled

technicians--to perform a specific and limited task.

There is some indication in the dairy operator's responses that they recognize this problem and would be willing to do something about it. The high percentages of operators indicating they would use veterinarians more in the future if veterinarians had more management skills or if services were scheduled on a more routine basis are suggestions that the operators are interested in finding a reliable source of herd health and management information.

Changes in the curricula of veterinary medical schools may well be in order. At the University of California at Davis, for example, teaching assignments, and thus the emphasis of the curriculum, are heavily weighed towards the clinical and technical aspects of practice, with little emphasis on herd health, epidemiology and preventive medicine, or economics. Given the dairy operator's need for herd management advice, this clinical and technical training should probably be balanced by the addition of training in herd management subjects. Veterinary students indicating a desire to enter food animal commercial practice should be required to take training in courses such as: 1) financial management, 2) farm management, 3) animal production, 4) animal nutrition, 5) experimental design, 6) data processing, 7) economic decision making, 8) statistics and 9) business administration.

Continuing education programs in such subjects should also receive a new emphasis to update the skills of those currently in food animal practice^{6, 4, 11, 1} (Hjerpe 1970) (Grunsell et al. 1969) (Morrow 1963) (Butler 1971).

On a more immediate level, the practicing veterinarian can make some practical changes in services offered and the structure of the delivery system for these services. The veterinarian should first formalize the practice of giving management-related advice to the dairy operator. This will involve informing the dairy operator of areas of management expertise and of a willingness to work with the operator on a scheduled basis to solve management related problems. The willingness of operators to consider less episodic, more scheduled veterinary service arrangements is an indication that operators would respond well to such a shift. In addition, a shift away from a negative practice (treatment of disease) toward a positive practice aimed directly at increasing profits and decreasing risks will be necessary. The veterinarian needs to learn to address some of the dairy operators' herd health and management questions such as: 1) What is the optimum program of disease control given limited capital? 2) How can different methods of disease control be combined to achieve maximum results within the management setting of each dairy? 3) What is the effect of short-term time and resource expenditures for disease control on long-term profits?¹³ (Wells 1974). Many practicing veterinarians may be ill-equipped to answer such questions, as only recently have even a third of American veterinary schools introduced courses in preventive medicine in their professional curricula⁷ (Hubbert 1979).

Making such changes in academic curricula and in the practicing veterinarian's approach to serving large-scale dairy operators will require considerable effort. We feel the effort is necessary. The shift from small-scale operations to large-scale, low-profit-margin dairies has significantly changed the level and types of services dairy operators need, and this shift towards management-service needs would appear to be permanent and increasing. Unless veterinarians act to change the narrow perception of the services they provide among dairy operators, they are likely to find their practices continuing to decline. The expressed willingness of operators to consider using veterinarians more often in the future if veterinarians can become more management-oriented, suggests that this decline need not occur, but that a change in the emphasis of veterinary education and practice will be required to ensure full use of veterinary service.

REFERENCES

1. Butler, R. 1971. The economics of preventive medicine and swine production. *Can. Vet. J.* 12:201-208
2. Crane, F.M. 1979. Efficiency, stability help dairy industry. *Feed-stuffs* 51(Oct 29):126-129 & 200
3. Goodger, W.J., R. Ruppen. 1982. Historical perspective on the development of dairy practice. *Am. Vet. Med. Assoc.* 180:1294-1297
4. Grunsell, C.S., R.H.C. Penny, S.R. Wragg, et al. 1969. The practicability and economics of veterinary preventive medicine. *Vet. Rec.* 84:26-40
5. Gurtle, G. 1978. The dairy industry in Tulare County, Davis, University of California Cooperative Extension Service
6. Hjerpe, C.A. 1970. The veterinarian and food animal practice. *Southwestern Vet.* 23(4):271-274
7. Hubbert, W.T. 1979. Interfacing professional training in health maintenance and preventive medicine. *J. Am. Vet. Med. Assoc.* 175:210-211
8. Matulich, S.C. 1978. Efficiencies in large scale dairying: Incentives for future structural change. *Am. J. Agr. Econ.* 60(4):642-647
9. Morris, R.S. 1969. Assessing the economic value of veterinary services to primary industries. *Aust. Vet. J.* 45:295-300
10. Morrow, D.A. 1967. What dairymen want from veterinarians. *Vet. Econ.* 8(4):27-34

11. Morrow, D.A. 1963. Developing a dairy herd health program. Vet. Med. 58:308-312 P.A. Linerode, D.K. McIntosh 1968. The herd health management approach. Southwestern Vet. 21:201-208
12. Ryan, T.A., B.L. Joiner, B.F. Ryan 1978. Minitab II: Reference manual. Statistics Department, Pennsylvania State University, University Park, Pennsylvania 16802
13. Wells, K.F. 1974. Federally subsidized veterinary practice. Can. Vet. J. 18(8):205-208

Table 1. Frequency With Which 10 Sources of Animal Health Services and Related Information Were Consulted Regarding 6 Problem Areas by 32 Dairymen; California, 1979

Source of Information	Problem Areas (No. of Sources Consulted for Each Area)						Total	%
	Infertility	Mastitis	Breeding Management	Dairy Management	Nutrition	Business Management		
	(4)	(7)	(6)	(8)	(6)	(5)		
Veterinarian	30	26	18	8	3	0	85	32.4
DCCA ^a	0	8	0	19	19	7	53	20.2
Accountant	0	0	0	9	0	22	22	8.3
Extension Service	0	3	2	7	3	3	18	6.8
Feed Representative	0	2	2	3	11	0	18	6.8
Inseminator	4	0	13	1	0	0	18	6.8
Nutritionist	1	1	3	5	7	0	17	6.4
Banker	0	0	0	0	0	16	16	6.1
Neighbor	1	1	3	3	1	4	13	5.0
Drug Salesman	0	1	0	1	0	0	2	0.7
Total	36	42	41	47	44	52	262	100.0

^aDairymen's Cooperative Creamery Association

Table 2. Ranking of Importance of Services Provided to Large-Scale Dairies by Veterinarians Currently in Dairy Practice; California 1979

Rank	Services Supplied	Weighted Response ^a (%)	
1.	Fertility Work	54	(32.0)
2.	Pregnancy Check	38	(22.5)
3.	Emergency Procedures ^b	31	(18.3)
4.	Repeat Breeder Examination	16	(9.5)
5.	Vaccinations	13	(7.7)
6.	Sick Cow Treatment ^c	13	(7.7)
7.	Mastitis Control	4	(2.3)
	All Services	169	(100.0)

^aEach of the 32 dairymen interviewed was allowed 3 choices, 1st choice = 3 pts., 2nd choice = 2 pts., 3rd choice = 1 pt.
^bDystocias, acute digestive disorders, etc.
^cUndetermined causes.

Table 3. Comparison of Current Utilization of Veterinary Services with Anticipated Health Needs in the Future; California, 1979

Problem Area	Proportion (%) of requests for veterinary services per problem area	
	Now	In the Future
Infertility	35.3	25.0
Mastitis Control	30.6	13.1 ^a
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

^aMainly laboratory services relating to mastitis control