Use of Veterinarian on Organic Dairy Farms – Preliminary Results of a Multistate Study

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INTRODUCTION

Like other dairy farmers, organic dairy farmers (ORG) utilize a variety of housing and management strategies and vary in farm size, however only about 5% of ORG dairy farms contain in excess of 200 lactating cows and larger herds are clustered in western regions (Mcbride and Green, 2009). In a study conducted in the Great Lakes region, ORG dairy farms tended to be smaller, lower producing and milked cows less frequently in parlors as compared to conventional dairy farms (CON) (Zwald et al., 2004). The nature of dairy farming has changed and the role of the veterinarians has likely changed as well. The relationship between the veterinarian and the dairy farmer may vary greatly among farms, and it is likely that the nature of this relationship may influence animal health. Little research has been conducted on the role and impact of veterinarians working with small dairy herds nor differences in care provided by veterinarians who work with herds that utilize intensive rotational grazing. This paper presents preliminary data collected in USDA NIFA project 2008-51106-19463, "Impact of Organic Management on Dairy Animal Health and Well-being." Data collection and study design are briefly described in a companion paper (Ruegg, et al., 2011). The preliminary data presented in this paper presents new information about usage of veterinarians on small dairy herds and contrasts veterinary usage among conventional herds that utilize confinement and intensive grazing practices with similar herds that are certified organic producers.

EXISTING RESEARCH ABOUT THE ROLE OF VETERINARIANS ON ORGANIC DAIRIES

The relationship between the veterinarian and the dairy farmer may vary greatly, and it is likely that the nature of this relationship may influence animal health. Differences in the veterinarian and client relationship between ORG and CON management systems have been examined primarily based on the numbers of veterinary-treated cases of disease and have not included CON herds that utilize intensive grazing. Canadian researchers reported few annual visits by the veterinarian to organic dairy farms (Rozzi et al., 2007), and several European studies have reported fewer veterinary-treated cases of disease on organic as compared to conventional farms (Hardeng and Edge, 2001; Hamilton et al., 2002; Bennedsgaard et al., 2003; Valle et al., 2007). Veterinary-treated cases of disease are recorded in national disease recording databases in Nordic countries and have been used to study veterinary treatments (Valde et al., 1997; Hardeng and Edge, 2001; Hamilton et al., 2002; Hamilton et al., 2006; Valle et al., 2007). Reporting bias is known to occur in these disease databases based on type of disease, severity of symptoms (Mörk et al., 2009a), failure of the veterinarian or farmer to report disease or treatments (Olsson et al., 2001). Consequentially, information obtained from these databases may underestimate the true role of dairy veterinarians (Mörk et al., 2009a). A study comparing information in the databases to disease estimates of farmers (Valle et al., 2007) indicated that reporting bias occurred more frequently on organic as compared to conventional farms because organic farmers were more likely to initiate therapy themselves using alternative treatments (Hamilton et al., 2002; Vaarst et al., 2006; Valle et al., 2007).

The decision to call a veterinarian to examine an animal often incorporates financial and herd level issues. Vaarst et al. (2002) reported that European farmers consider individual cow characteristics (such as parity, milk yield, and SCC history), the overall herd situation (such as current bulk tank SCC and number of cows currently being treated), and previous experience with alternatives to conventional treatments (such as segregating milk out of the bulk tank or drying the quarter) when deciding if a veterinarian should examine a cow with mastitis. Similarly, Mörk et al (2009b) reported that the odds of veterinary treatment are influenced by both cow characteristics (such as parity and stage of lactation), and herd characteristics (such as predominant breed and presence of another sick animal on the farm). Most of the available research characterizing the relationship between dairy farmers and their veterinarians has been performed in Europe, under very different environmental, herd, management, and regulatory constraints. Thus information from these studies may not be applicable to the US situation. Additionally, rules strictly limiting the type of medications allowed on organic farms create a different context for veterinarians working on US organic farms. Characterizing the role of the veterinarian on the farm was not a primary objective in the few US

studies that compare veterinarian usage on organic and conventional farms (Zwald et al., 2004; Mayen et al., 2010) and virtually no information exists that defines veterinary care on modern smaller dairy farms.

FREQUENCY AND TYPE OF VETERINARY VISITS

It is likely that the role of the dairy veterinarian varies greatly among farms. Veterinary services may range from provision of routinely scheduled disease prevention programs to infrequent visits to provide emergency animal care. Various studies have suggested that veterinarians may be less involved on organic farms as compared to conventional farms (Vaarst et al., 2003; Vaarst et al., 2006; Valle et al., 2007; Mayen et al., 2010). In a survey of US farms, only 39% of organic farms (n = 288) reported the use of regular veterinary services as compared to 70% of conventional farms (n = 1,194) (Mayen et al., 2010). In two separate Danish studies, organic farmers reported that veterinarians were involved in treating individual cases of disease rather than being involved in disease prevention at the herd level (Vaarst et al., 2003; Vaarst et al., 2006). In Norway, organic farmers reported calling a veterinarian for fewer cases of disease as compared to conventional farmers (Valle et al., 2007). In a previous study conducted in the US, organic farmers reported less reliance on a veterinarian and more reliance on other farmers for advice regarding treatments as compared to conventional farmers (Zwald et al., 2004). Data from the current study indicates that veterinary services are used less intensively by operators of both organic dairy herds and conventional grazing herds as compared to operators of conventional confined dairy herds (Table 2). The proportion of herds utilizing veterinarians, the apparent reasons for calling veterinarians, the method of scheduling appointments, tasks routinely performed and the frequency of veterinary visits were all associated with type of management system (Table 1).

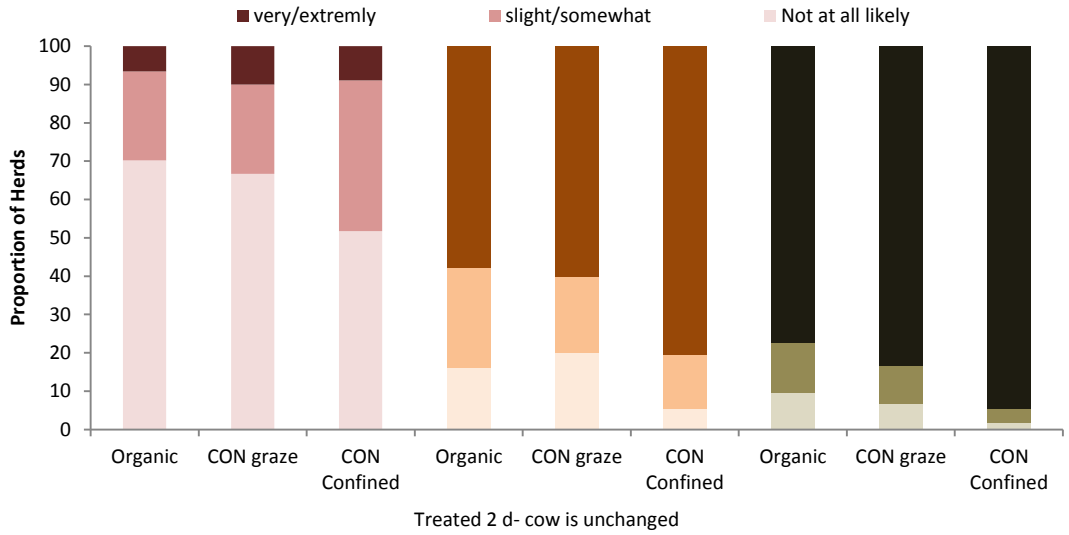
Table 1. Preliminary characteristics of veterinary visits based on farm management system

		Conventional Herds	
	Organic	Graze	Confined
Maximum number of herds included in preliminary data for each question	169	30	56
Farmer has routinely scheduled veterinary visits	33%	50%	80%
Palpation or ultrasound at <90d for preg. check	61%	77%	93%
Veterinarian actually visited farm			
In the previous 60 days (retrospective)	53%	64%	94%
In the 60 days after the interview (prospective)	59%	100%	85%
Frequency of veterinary visits (for farms with visits)			
In the previous 60 days (retrospective)	2.4	1.4	4.3
In the 60 days after the interview (prospective)	2.1	2.3	6.0
Methods used to arrange visit (for herds with visits)			
Routinely scheduled (monthly, weekly etc.)	43%	30%	74%
Advanced scheduled (called in advance)	51%	60%	26%
Not Scheduled	54%	60%	81%
Type & frequency of veterinary tasks performed			
Training farmers	11%	13%	20%
Frequency (number of times per year)	5	4	5
Developing protocols	27%	50%	66%
Frequency (number of times per year)	3	5	5
Perform Necropsy	26%	33%	50%
Frequency (number of times in last 3 years)	<1	2	1
Proportion of herds with selected tasks performed (only for herds with veterinary visits)			
Examine sick cows	60%	55%	90%
Reproductive work	78%	82%	90%
Emergency visit	24%	27%	35%
Vaccinate/dehorn or other preventive	43%	45%	64%
Teaching farmers or employees	6%	0%	13%

The likelihood of calling a veterinarian to examine or treat an individual cow with vague symptoms also appears to be associated with farm management system but organic dairy producers and conventional grazers reported consistently similar decisions indicating that some choices about veterinary care may be more associated with farm size or intensity rather than the decision to use organic management. Farmers participating in the current study were asked to rank the likelihood of calling a veterinarian for an off-feed cow under 3 scenarios: 1 – the off feed cows has just been observed; 2 – the off feed cow has been treated by the farmer for 2 days and her condition has not changed, or 3 – the off feed cow has been treated by the

farmer for 2 days and her condition has gotten worse (Figure 1). Under all scenarios, the intent to call the veterinarian was greatest for farmers who used conventional confinement management systems. Better understanding of hurdles to provision of veterinary services to these smaller farms may allow local veterinary providers the opportunity for more interaction with these types of farmers.

Figure 1. Proportion of farmers who would call the veterinarian to examine an off feed cows under three scenarios.



USE OF VETERINARIANS FOR EXAMINATIONS, DIAGNOSES AND TREATMENTS

The use of dairy veterinarians in a traditional role to examine sick cows, make an initial diagnosis and give initial treatments is often thought to be more common on smaller herds because the herdspersons have less opportunity to become proficient with veterinary technical skills. Data in this study indicate limited use of veterinarians for these traditional tasks regardless of herd management type. Examination of sick calves was not frequently performed for all types of herd management but a much larger proportion of herds used veterinarians to examine at least some sick cows (Table 2). Few ORG or CON-grazers used the veterinarian to examine, diagnose or treat cows with clinical mastitis indicating that animals with this disease are rarely under the direct care of veterinarians.

Table 2. Proportion of farmers who use veterinarians for examinations, diagnoses and initial treatments of selected diseases of dairy cattle based on herd type (from prospective & retrospective animal records)

		Conventional Herds	
	Organic	Graze	Confined
Farmers used vet to examine some or all:			
Sick calves	14%	21%	33%
Sick Cows	47%	71%	87%
Cows with clinical mastitis	5%	8%	24%
Veterinarian is used for primary diagnosis of:			
Milk fever	<1	4%	2%
Ketosis	8%	13%	20%
Retained Placenta	<1%	4$	2%
Metritis	16%	5%	20%
Pneumonia in cows	11%	12%	9%
Clinical Mastitis	2%	3%	0%
Calf Pneumonia	2%	0%	6%
Veterinarian used for initial treatment of some cases of :			
Milk fever	34%	24%	40%
Ketosis	47%	30%	48%
Retained Placenta	23%	22%	37%
Metritis	32%	41%	45%
Pneumonia in cows	35%	48%	65%
Lameness	23%	37%	26%
Clinical mastitis	5%	10%	29%
Subclinical mastitis	1%	4%	4%

As expected, farmers of all management types were quite familiar with diseases presenting with obvious clinical signs such as milk fever, retained placenta, clinical mastitis and calf pneumonia. With the exception of pneumonia in cows on CON farms, the majority of initial treatments were administered by farmers.

CONCLUSION

The data presented herein is preliminary and final conclusions should be withheld until a more complete analysis is completed. However, it is apparent that veterinary care varies among management systems but determinants of veterinary care seem more related to intensity of farming rather than the decision to adopt organic management. Conventional grazing herds shared some characteristics of both organic and conventional herds. Conventional confinement operations use veterinarians more frequently and in a more routine manner. For all herd types involved in this study, it appears that the majority of mild and moderate symptoms of disease in dairy cows are diagnosed and treated in absence of direct veterinary supervision. Veterinarians should use this data to identify opportunities to increase veterinary interaction with smaller dairy herds.

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