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Dairy Advisory Teams – A Tool for Production Medicine Veterinarians

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Abstract

Dairy Advisory Teams (DATs) improve farm management success when producers and advisors have the skills and attitude to make them work effectively. Basic team concepts are taught during team training workshops and in follow-up communications. Teams learn to recognize individual farm values, objectives and constraints before identifying areas in which improvements could be made. Teams are selected from people with skills and abilities that complement farm goals. An advisor who is not part of the owner/management group organizes and runs the team meetings in consultation with the owner. Advisors with team facilitation skills and experience make the best coordinators. Teams formulate action plans that are critical to success. Regular team meetings (monthly or bi-monthly with experience) increase the ability of farm advisors to monitor and make midcourse adjustment to farm plans. Farm owners make all decisions while benefiting from timely, diverse advice from multiple professionals.

Our study confirms that veterinarians are one of three critical team advisors and provide essential advice for teams when health information is integrated into the farm decision-making processes. Further, this study suggests that certain elements are key to success of a dairy advisory team. Teams most likely to continue after the first year tended to advise larger, better-managed herds. They had producers dedicated to the team process, experienced coordinators or new coordinators that adhered to the team process. Successful advisory teams functioned for multiple years, had larger teams and had goals that were more strategic (long term) than tactical (immediate). Smaller herds with DATs made faster progress on several indicators than larger herds, primarily because they were further behind initially. Therefore, DATs can target smaller herds and make significant progress.

Four to five team members appears to be the practical size for herds up to 150 cows, and six to seven team members for herds milking over 200. Team size is not as critical to success as the dedication of the producer and the leadership ability of the coordinator. Although herds with production challenges made greater progress, producer attitudes and coordinator effectiveness contributed most to sustainability. The financial and professional rewards for consultants may be greater when working with larger farms and dedicated producers.

Résumé

Les groupes conseils pour les fermes laitières peuvent améliorer le succès de gestion des fermes lorsque les producteurs et les conseillers ont les compétences et une attitude qui favorisent un travail efficace. Les concepts de base du travail en groupe ont été enseignés durant des ateliers de travail et lors de communications subséquentes. Les groupes apprennent à reconnaître les valeurs, objectifs et contraintes propres à chaque ferme avant l'identification des éléments qui peuvent être améliorés. Les groupes sont formés à partir de gens qui ont des compétences et des aptitudes qui s'harmonisent avec les objectifs de la ferme. Un conseiller, non rattaché à l'équipe de gestion ou aux propriétaires, organise et dirige les rencontres de groupe avec l'aide des propriétaires. Les conseillers avec des compétences et de l'expérience au niveau du travail en groupe font les meilleurs coordinateurs. Les groupes mettent de l'avant des plans d'action qui sont essentiels au succès. Des rencontres d'équipe sur une base régulière (mensuellement ou bi-mensuellement avec plus d'expérience) permettent aux conseillers de suivre les démarches plus adéquatement et de faire des ajustements aux plans des fermes en cours de route. Les propriétaires de fermes prennent toutes les décisions tout en bénéficiant de conseils variés et à propos faits par plusieurs professionnels.

Notre étude confirme que les vétérinaires sont parmi les trois conseillers les plus importants et peuvent donner des conseils essentiels pour les groupes lorsque l'information sur la santé est intégrée dans le processus

de prise de décision de la ferme. De plus, cette étude suggère que certains éléments sont essentiels au succès d'un groupe conseil de ferme laitière. Les groupes qui avaient le plus de chance de poursuivre leurs travaux après la première année avaient aussi tendance à donner des conseils pour des troupeaux plus gros et mieux gérés. Ces groupes faisaient affaire avec des producteurs dédiés au travail en groupe et travaillaient avec des coordinateurs chevronnés ou débutants qui savaient se joindre au processus de groupe. Les groupes avec succès travaillaient sur plusieurs années, étaient plus gros et avaient des buts plus stratégiques (à long terme) que tactiques (immédiats). Les plus petits troupeaux avec des groupes conseils faisaient des progrès plus marqués que les plus gros troupeaux, tel que démontré par plusieurs indices, principalement parce les plus petits troupeaux étaient plus en retard initialement. Donc, les groupes conseils pourraient cibler les plus petits élevages pour faire des progrès plus marqués.

Introduction

Boehlje and Schiek have described the critical success factors for dairy management.[2] They see future dairy producers adopting the industrialization model resulting in profound changes in the organizational processes within the farm. To remain economically competitive, dairy producers will have to adopt new business strategies including developing formal farm procedures, employee specialization, optimizing the use of expensive facilities and increasing the role information plays in all processes.[2]

Diverse challenges to farm management including capital, nutrition, labor, facilities, governmental policies and regulations, and automation can impact animal health. Likewise, animal comfort and health have a profound impact on productivity, profitability and producer satisfaction. Farm managers must increasingly consider these interactions when planning and making future decisions.

Industry has found that diagnostic teams are an effective tool to overcome problems when managers and workers do not have the necessary knowledge, skills or experience.[9] Advisory teams are also very effective to discover new ways to solve chronic problems and motivate new behavior.[6,8,12] Within a dairy advisory team, experienced and knowledgeable off-farm specialists can see and understand the problem from a more objective perspective while the farm management can help modify the proposed solution to the reality of farm values and constraints.

On many dairy farms, consultants such as lawyers, accountants, lenders, veterinarians, nutritional advisors, builders and educators offer advice to dairy owners in isolation. This process can be greatly improved if these consultants regularly interact with each other and the farm owners to help set farm goals, develop and implement action plans, and monitor progress. Few action plans anticipate all contingencies and most need mid-course corrections as situations and environments change. A group of advisors that meets regularly with the on-farm decision makers will know the business owner's values, goals, and farm constraints and can resolve problems quickly and expedite the achievement of team goals.[8,12]

All farm advisors have experienced failures in implementation of their recommendations. The advice given is negated by a unique situation, conflicting advice or lack of understanding on the farm. Translating critical new concepts and procedures into successful practices requires repeated observation, participation and integration of all disciplines until the practice becomes a standard operating procedure (routine) that can be done by any farm employee. Often, persuasion, retraining, procedure modification and reinforcement are required to gain the desired outcome. Those affected by the outcome must be part of the decision-making process if they are to understand and implement these recommendations successfully. In economic development studies, Chambers has described situations where the best intentions of the most knowledgeable advisors failed.[4] Local, complex and diverse realities can be at odds with recommendations offered by professionals, often causing non-compliance. The dynamic between external expert and local implementer applies to teams of farm advisors as well. Professionals facing a management challenge who use Chambers "participatory approach" make significantly more progress than those working in isolation and at a distance.[4]

Holden *et al* concluded that decision-making and implementation of positive changes occurred faster with advisory teams.[6] They also found off-farm coordinators such as lenders, nutritionists, management consultants and veterinarians benefited advisory teams. Weinand and Conlin, working with Minnesota dairy producers, credited advisory teams with increased milk production, improved milk quality, successful farm transfers and more efficient structuring of the farm business.[12] Hutchinson *et al* found the benefits of dairy advisory teams include more comprehensive solutions to problems, faster resolution of problems, greater insight into goals and priorities of producers and broader appreciation of diverse inputs into problem solving.[8]

Hutchinson *et al* also found that veterinarians involved in a dairy advisory team benefit from exposure to other disciplines, points of view and informed advice given by multiple experts. Furthermore, they found veterinarians are included in decisions on larger issues rather than being marginalized to only animal health issues. Finally, the veterinarians in the study reported that successful, profitable herds are better clients.[8]

Advisory teams focus more people skills, experience and knowledge on problem solving than any other business tool widely used in the dairy business. The result is improved communications, greater progress toward major business improvements, faster response to business threats, greater income, more job satisfaction and improved lifestyle.[6,8,12]

Pennsylvania State University extension personnel undertook a multiyear dairy advisory team demonstration project. The objectives of the dairy advisory teams project included development of an educational model for successful implementation of dairy advisory teams, assessment of producer and team member attitudes toward the team process and measurement of qualitative criteria of team sustainability and success.

Methods

This paper covers two yearly cycles of a five-year dairy advisory team project with a goal to start 15 to 30 dairy advisory teams per year. Each fall, workshops were held to introduce the advisory team concept to agribusiness consultants and educators. Participants were then asked to nominate farms for the project. In November and December, the project leaders spent an hour visiting each farm to personally present the concept and to extend an invitation to the producer to attend the Dairy Advisory Team Kick-off Workshop held in January. The kick-off workshop offered an interactive case study, provided an industry perspective, described the role of the coordinator and outlined steps to start a team. The workshop ended with each team holding its organizational meeting. Teams were then encouraged to hold monthly meetings for one year, using the process described in a handbook given to each producer and team coordinator. Various data specific to farm goals were collected throughout the year and compiled at year-end.

A project manager helped train the teams and coordinated data collection. He/she was actively involved in starting and tracking each team as well as summarizing project data. The project manager visited each team once during the year and stayed in contact via telephone or mail throughout the year to collect data, hear concerns and provide encouragement as the situation warranted. Many of the project teams continued to function after the one-year project. Continuation after the end of the project year was used in this study as an indicator of team success. The project manager subjectively evaluated teams based on telephone interviews and correspondence, scoring teams on a scale of 1 to 5 at the beginning and end of the project year. Criteria used to score teams included goal setting, record monitoring, written plans and use of consultant's advice.

Meetings for team coordinators were held quarterly for additional team training on topics of their choice. Topics included personality style assessment tools, goal setting, human resource management and dairy information systems. A dairy advisory team website, listserve and newsletter were used to aid communication. General information on dairy advisory teams is available on the web http://dat.das.psu.edu/ and an abbreviated version appears in a handbook.[5]

Participation in the project by producers and farm advisors was voluntary. Cooperation varied from complete lack of compliance to full utilization of the team approach. Degree of participation influenced the quality of data gathered.

A copy of the February Dairy Herd Improvement Association (DHIA) summary was requested from each coordinator at the beginning and end of the project year to monitor production information. Some farms did not use DHIA services. Additionally, copies of team goals, action plans, monitoring sheets and monthly meeting minutes were requested. While not all teams complied, some were very faithful to our requests, providing computer generated reports, e-mail and faxes. Thirty out of more than 50 herds that started contributed data used in summaries here. One farm purchased a second herd and experienced devastating herd health problems. These two herds, current and purchased, were dropped from the data set. Because goals varied significantly across herds and in many cases did not focus on production parameters, quantitative measurement of production and financial parameters across all herds was not meaningful and, therefore, not included in this study.

Upon completion of the project, the project manager was asked to subjectively classify each advisory team and team coordinator based on their interactions with the teams. The project manager classified each coordinator's effectiveness as:

- Experienced Team Leader
- Follows Lead of Producer
- Follows Team Process
- Has Hidden Agenda

Definitions of these classifications appear in Table 1. Likewise, the producer's attitude was classified as:

- Leads Team Process
- Dedicated to Team Process
- Frustrated with Commitment of Team
- Conflicted Decision Maker

These subjective classifications of commitment to the team process were then examined for correlation with team progress and sustainability. Data were compiled from 30 herds completing one of two project years. At times, only 20 herds had sufficient data for analyses because not all herds used DHIA for production records throughout the year or failed to respond to pertinent questions. The data set was divided into two sets by

herd size; small herds were defined for this study as less than 200 cows and large herds more than 200 cows. For additional analyses the data set was also stratified by producer attitude and coordinator effectiveness. Data were tested for significance using a Student's t-test.[11]

Results and Discussion

Most herds had multiple goals but very few herds shared similar goals. Some teams had common concerns such as mastitis, milk yield, expansion and profitability, but when written as a specific goal they were not directly comparable across herds. Examples of issues targeted by teams are:

- Write business plan
- Increase equity
- Reduce debt
- Sell more milk from a smaller herd
- Expand herd
- Reduce crop acres
- Reduce employees
- Increase leisure time
- Outsource replacements
- Accommodate a new family member
- Contract total mixed ration (TMR)
- Pay down outstanding accounts in order to afford a capital expense
- Increase employee satisfaction
- Lower days to conception
- Harvest higher quality forages
- Consistently earn milk quality premiums
- Reduce employee turnover
- Produce better herd replacements
- Reduce feed costs
- Develop a financial reporting system
- Reduce labor

Because of the wide variation in this small data set only herd size and income over feed cost data were significantly different using a t-test to compare larger versus smaller herd groups in Table 2. Using a less rigorous evaluation of all the data presented in Table 2, the larger herds as a group seem to be better managed. Average herd size increased in both groups over the project year. Larger herds increased by 54 cows and smaller herds by 12 cows, approximately12% for each group. Average production data did not improve greatly during the project year, but was confounded by weather and crop quality. In comparison, the average herd in the state grew 4%, or about one-third of the 12% for the dairy advisory herds.[10] State cow population during the project years declined 8500 cows/yr. The number of herds with over 200 cows increased; all other herd sizes declined in number.[10] Statewide milk production increased an average of 183 lb (83 kg)/cow.[10]

The average somatic cell count (SCC) for those herds with a full year DHIA reported (not including herds with only bulk tank SCC) was not different, 259,000 cells/ml for small herds and 265,000 for large herds. Small herds made greater progress in lowering SCC (-122,000 vs. -13,000). This progress was non-significant as measured by the t-test. Teams that made SCC progress were more likely to be led by an experienced coordinator or a coordinator new to dairy advisory teams and who followed the recommended team process. Producer attitude was not as important with SCC reduction when it was classified as dedicated, reluctant or frustrated. In this analysis, we acknowledge that herds with higher SCC tended to make reducing SCC a goal, and herds with lower SCC focused on other issues.

Nearly three-quarters of the teams in our study identified reducing somatic cells in milk or mastitis in some way as one of the team goals. Some teams reduced

Table 1. Definitions of coordinators' effectiveness and producers' attitudes used by project manager to evaluate advisory team function.

Score	
Coordinator Effectiveness	
1	Experienced Team Leader - a coordinator that has more than one year of team experience
2	Follows Lead of Producer - this coordinator is not as confident, determined and persuasive as the above
3	Follows Team Process - this coordinator utilizes the team tools like SWOT and SMART goals but isn't a strong leader. They struggle to get the right issues on the table and make effective decisions.
4	Has Hidden Agenda - this coordinator's personal goals sometimes conflict with the producer's values and farm goals. (This sometimes occurred when the producer had overdue accounts to the coordinator's company or others at the table.)
Producer Attitude	
1	Leads Team Process - they share leadership with the coordinator, use team tools and value team input
2	Dedicated to Team Process - producer that sees the value of the team and implements decisions at the close of the meeting
3	Frustrated with Commitment of Team - producer that really wants a team, but one or more of the team participants are irregular at attending team meetings. (Some of these teams didn't have a good leader and meetings were inefficient or advisors were too busy to serve effectively on the team.)
4	Conflicted Decision Maker - producer who won't make a decision in the team meeting or agrees to something and then does it differently. This is the result of the team not making a practical recommendation that can be applied, the producer not trusting the advice of the team, or the true decision maker not being part of the process.

Table 2. Key DHIA data for dairy advisory team herds sorted by herd size.

Herd	DHI cows	Days to 1st service	Percent cows culled	150 day st'd milk	wtd SCC*	Income over feed cost	Average days dry
SMALLER HERDS							
1	96.5	96	73	54.7	222	4.71	
4	125.4	109	25	65.2	345	6.34	59
11	44.7	91	39	65.4	313	5.86	72
12	151.8	119	64	52.8	870	2.62	67
16	130.0	116	11	60.1	524	4.63	58
17	61.0	85	7	70.5	129	5.90	
25	76.2			38.6	216	2.69	
60	67.8	90	35	57.5	601	3.00	68
61	138.0	86	47	72.1	219		74
62	115.6	97	37	68.0	113	4.51	65
64	61.0	78	29	74.5	176	6.27	63
65	100.3	74	29	62.1	159		54
68	50.2	97	72	66.8	135	3.88	70
73	139.3				193	4.34	
75	64.0	133	34	68.5	252	5.12	67
77	112.0	78	30		328		
82	69.0	76	39	79.7	415	5.62	62
83	76.0				217		
85	62.0		30	72.0	231		67
Average	82.9[a]	95.0	33.4	57.1	269.4	4.09[c]	65
LARGER HERDS							
2	262.5	79	29	72.9	204	4.95	62
5	626.0	64	27	72.6	324	8.00	57
6	260.3	79	25	78.8	259	6.83	67
8	1332.0	70	35	78.6	255	8.14	
9	273.0	75	30	77.0	358	7.20	56
15	209.0			71.0	280		
18	241.4	82	46	68.0	301	6.21	57
21	656.9	75	42	71.3	359	7.51	59
23	214.4	84	29		257	6.77	
57	469.0	69	38	68.0	267	5.50	62
70	215.0	68	47	83.2	180	10.57	64
Average	432.6[b]	74.5	34.8	74.1	276.7	7.17[d]	60

* SCC data is in 1000's and was taken from tank samples or weighted DHIA SCC.
[a,b] Differ at $p < 0.025$
[c,d] Differ at $p < 0.005$

somatic cell counts enough to be paid an additional $.20/cwt quality bonus. For a 100-cow herd this is equal to $4200 annually. In addition to increased income, having healthy cows lowers costs and worker frustration. Healthy cows produce higher quality milk and have lower antibiotic residue risks. Other team successes included lowered feed costs, increased production per farm and improved business skills during the project year.

Smaller herds had lower daily milk production as compared to large herds (63 vs. 74 lb [28.6 vs 33.6 kg] per day) but experienced greater improvement in production over the year (2.4 vs. 0.7 lb [1.09 vs 0.32 kg]). Large herds tended to focus on strategic goals such as business succession, transfer, or employee goals, while lower producing herds tended to focus on production goals and cash flow issues. One 500-cow herd increased production nearly 25 lb (11.36 kg)/day. This team had a dedicated producer and experienced coordinator. A greater percentage of large herds were successful in establishing advisory teams and continuing after the project (large herds 69%, small herds 55%).

Only 20 herds had sufficient data for analyses in Table 3 because not all herds used DHIA for production records throughout the year, and others failed to respond

to pertinent questions. These data were sorted by producer attitude and coordinator effectiveness scores in Table 3 using definitions that appear in Table 1. Low scores (Producer Attitude score of 1 in combination with a Coordinator Effectiveness of either 1 or 2) were associated with higher milk production (74.4 vs 64.8 lb; $p < 0.05$) and larger herd size (399 vs 168; $p < 0.005$). Other differences were not significant. The individual goals of each herd were not compared because of lack in commonality among goals.

The project manager subjectively evaluated teams based on telephone interviews and correspondence, scoring teams on a scale of 1 to 5 at the beginning and end of the project year. Criteria used to score teams included:

- Goal setting
- Records monitoring
- Written plans
- Utilization of consultant's advice

This assessment showed that larger herd teams scored higher than smaller herd teams at the beginning of the project, but smaller herds made the most progress over the course of the project, scoring higher by year-end. Teams that continued their dairy advisory team after the project year tended to have higher business scores at the end of the project. They also tended to have larger average herd size for both smaller herd and larger herd groups.

We observed that larger herds generally had more senior or more experienced advisors on their teams. Many advisors donated their time the first year to gain experience with the team concept, to retain the goodwill of the client and to learn from fellow teammates. After the first year, more charged for their service. A few felt that they saved time employing the team concept so they did not need to increase their usual consulting fee for participation in team meetings. Many advisors felt they were rewarded by what they learned from their fellow team consultants. They appreciated hearing and being able to react to advice given by other team advisors. This intra-team communication allowed

Table 3. A comparison of selected DHIA data, producer attitude and coordinator effectiveness. These selected herds provided herd DHIA SCC at start and end of the one project year. Top set of data was herds classified as "Accomplished Leadership" in which Producer Attitude was evaluated as 1 and Coordinator Effectiveness was 1 or 2. Other herds are in the second set. Herds not meeting these classifications are in the "Learning Leadership Skills" set.

Herd	Milk	Change in milk (lb)	SCC	Change in SCC	Change in cow no.	DHI cows	Producer* attitude	Coordinator* effectiveness
ACCOMPLISHED LEADERSHIP								
22	80.0	24.6	160.0	-160.0	49.0	499.0	1.0	1.0
5	72.6	-1.6	324.0	-44.0	91.0	626.0	1.0	1.0
8	78.6	1.0	255.0	0.0	300.0	1332.0	1.0	1.0
9			358.0	11.0	16.6	273.0	1.0	1.0
15	71.0	-11.0	280.0	80.0	-1.0	209.0	1.0	1.0
6	78.8	7.7	259.0	83.0	25.3	260.3	1.0	1.0
73			193.0	-219.0	24.3	139.3	1.0	2.0
61	72.1	-0.2	219.0	-41.0	6.0	138.0	1.0	2.0
62	68.0	0.3	113.0	-20.0	13.1	115.6	1.0	2.0
Average	74.4[a]	3.0	240.1	-34.4	58.3	399.1[a]	1.0[c]	1.3[c]
LEARNING LEADERSHIP SKILLS								
1			222.0	-318.0	15.6	96.5	1.0	3.0
7			328.0	-26.0	53.0	530.0	1.0	3.0
18			301.0	-10.0	7.0	241.4	1.0	3.0
83			217.0	-22.0	-2.0	76.0	1.0	4.0
77			328.0	-63.0	18.0	112.0	2.0	3.0
2	72.9	4.9	204.0	103.0	1.6	262.5	3.0	4.0
25	38.6	11.2	216.0	-476.0	1.8	76.2	4.0	1.0
4	65.2	0.5	345.0	14.0	53.1	125.4	4.0	1.0
70			180.0	-169.0	-3.0	215.0	4.0	2.0
68	66.8	6.1	135.0	-143.0	-2.6	50.2	4.0	3.0
60	57.5	9.5	601.0	63.0	-8.5	67.8	4.0	4.0
Average	64.8[b]	0.7	279.7	-95.2	12.2	168.5[b]	2.6[d]	2.8[d]

* Definitions appear in Table 1.
[a,b] Differ at $p < 0.05$
[c,d] Differ at $p < 0.005$

experts to challenge faulty or misdirected advice before it was instituted.

Although a website and listserve were provided for project participants, face-to-face, telephone, fax and e-mail communications were most often used to communicate. Those responding to a survey of recipients appreciated the quarterly newsletter. Faxes and e-mail served best for team minutes and progress reports, while e-mail was favored for asynchronous communications such as meeting announcements, reporting and reminders.

Team success did not show a direct correlation with participation in a team training program; however, several of the teams that did not participate in training but did continue beyond the one year project period were led by coordinators who had previous experience with advisory teams.

Overall, teams that had five to seven members were more likely to continue to meet, while teams of three to four were more likely to disband. Average herd size was a factor in team size. Four to five member teams appeared to be optimum size for herds up to 150 cows (average 83 cows), and six to seven members for herds milking over 200 (average 433) cows. Of the 18 teams that had four to seven team members, 11 (61%) continued after the project. Most of those had an experienced team coordinator or a coordinator that followed team process, and had a dedicated producer. Of the seven teams that didn't continue, the coordinator was not a strong leader, and/or the producer was not dedicated. Our conclusion is that team size is not as critical to success as is dedication of the producer and the leadership ability of coordinator.

Four of the eleven larger herds failed to continue for one or more of the following reasons:

- One discontinued after herd expansion was completed
- Two failed after changing nutritionists (one nutritionist was the team coordinator)
- One failed due to lack of commitment from all team members in general
- One herd did not give a reason

Nine of the 21 smaller herds failed to continue for one or more reasons:

- Veterinarian failed to participate
- Disbanded after successfully meeting short term goals — expansion or farm purchase
- No response
- Lost coordinator
- Lost nutritionist
- Too little diversity on team (only three members)

Larger herds, in general, were more likely to continue their dairy advisory teams after the project year — 69% of larger herds and 55% of smaller herds continued. The average size of smaller herds that discontinued DAT was 60 cows, compared to 81 for those continuing. For larger herds, the average herd size for those that discontinued was 315 compared to 404 for those that continued. Some disbanded advisory teams reformed with different goals and advisors in another year.

Some teams struggled the first year and made little progress, and then became more effective teams over time. Some re-established goals annually and some changed advisors to match changing team goals. Changing advisors was very disruptive to team performance and was sometimes beyond the control of the producer. After reorganization, teams improved owner satisfaction or met changing farm needs. Many team coordinators started dairy advisory teams with other clients after the project. One lender started teams for more than eight herds, and then handed off some herds to colleagues as he started teams for new herds.

We sometimes heard farm advisors say that dairy advisory teams are for the weaker manager. Our experience is that the better managers and coordinators made better use of the team concept, and more of their teams functioned after the end of the project. Larger herds had less difficulty establishing dairy advisory teams than smaller herds because of the size of their accounts with advisors, their willingness to pay hourly fees to veterinarians and other consultants, and their more aggressive utilization of advice offered.

In a five-year study of dairy advisory teams, nine out of ten experienced farm advisors polled planned to continue using teams in the future.[7] Disciplines most often represented on advisory teams were finance, nutrition and health. Our study supports these findings. Farms addressing intergenerational transfer, specialization, or other non-health related objectives do not necessarily include veterinarians on the advisory team.

The management style in animal agriculture in America is changing markedly. More than a quarter of the nation's milk is produced in herds of 1000 or more cows and is the fastest growing segment of the industry. Herds with fewer than 200 cows are disappearing at an accelerating rate. Local veterinarians are handling the emergencies while consulting veterinarians and company technical service representatives (often veterinarians) are assisting with major herd health decisions. Technology is rapidly transforming how information is stored, transmitted and retrieved on the farm.[10] The competition in fee based knowledge transfer is not local anymore—in fact, it is international. Apps writing about future leadership states, "the old way of seeing and doing things doesn't work".[1] Further he states, experimentation is required at the business level to advance success in knowledge transfer.[1]

Boehlje and King state that information now has real, measurable value that can be garnered by refining it to meet specific audience needs.[3] The challenge for

fee based agricultural advisors in the next decade, including veterinarians, is to deliver wanted consulting information in a form that meets the client's needs in competition with more distant information venders.

Conclusions

Many of today's dairy management problems cannot be solved by any one consultant or specialty, but require multiple skills, experiences and judgments. The rewards experienced by effective teams in our studies were significant. Farms with successful advisory teams had more challenging business goals, worked with many more new ideas brought to the discussion by off-farm advisors, improved targeted production, experienced better communications, solved critical problems faster and built greater loyalty to advisors. Successful team members felt that time spent on problem solving and planning was time well spent, that profitability and confidence followed the improved management performance, and that all team members experienced greater satisfaction.

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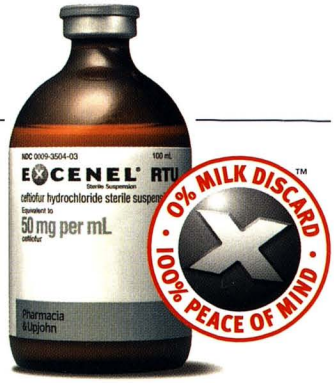

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