Management of Milk Recording Organisations – Current Problems and Future Challenges

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Abstract

Management of Milk Recording Organisations – Current Problems and Future Challenges is an official project between the ICAR Dairy Cattle Milk Recording Working Group, invited organisations and experts. The Dairy Cattle Milk Recording Working Group is responsible for Section 2 of the ICAR Guidelines, which covers all aspects related to cattle milk recording, from sample-taking to the delivery of samples to the laboratory and from data processing to plausibility checks and other services. The project focuses on practical aspects of management and organisation among milk recording organisations, ICAR members and non-member organisations. Data and expertise have been obtained from 41 organisations with a variety of needs and which have undergone different cultural and historical developments. The gathered data will be valuable for comparing and identifying the most common managerial practices.

In line with the Dairy Cattle Milk Recording Working Group's strategy, one of the main tasks will be to resolve several specific aspects of milk recording, including methodological and technical aspects and current practical managerial and organisational problems. Outcomes from this project will (a) provide recommendations relevant to management, (b) summarise the main trends in management among milk recording organisations, (c) evaluate managerial practices and (d) attempt to find solutions to potential issues. It is a priority of the Dairy Cattle Milk Recording Working Group to strengthen its

associations with milk recording organisations in order to better address their requirements. This collaboration is essential and beneficial for both parties. One of the main goals is to give the opportunity to benchmark practices within particular organisations in order to assess the main trends and approaches used for all principal areas related to ICAR across all continents and to recommend practical solutions for the future.

The group's new project focuses on general principles of management and organisation within MROs, strategy, operative management and many other MRO-related areas. The project also embraces new ideas from around the world with regard to creating strategies and organising and managing business. The main areas covered by the project are: organisational structure, internal and external ownership and quality management of milk recording businesses. External quality management practices can be a prospective way of expanding the activities of milk recording organisations. Other important topics include fee structures, conditions affecting subsidies, advisory services, strategies of MROs, future visions, cost cutting, mergers and take-overs, evaluation of employees, selective tax aspects within agriculture, MRO productivity, modern approaches to people management (remote work), data safety, essential innovations, MRO activities in the foreign and domestic market, policies on data sharing, the need for research, SWOT analysis and other issues.

Based on analysis of managerial practices, a general evaluation will be carried out along with practical recommendations for the future. These results should help to shed new light on practical day-to-day and strategic management of milk recording organisations by comparing standard practices throughout the world. Ensuring the comprehensive knowledge of all methodological aspects is a key area affecting milk recording organisations. It is a key prerequisite for establishing reliable market status in order to survive in the current turbulent economic climate. State-of-the-art equipment must also be introduced to milk recording management and organisations as well as having the appropriate organisational structure. A possible benefit is to benchmark world trends in management and organisation, to use these results for improving organisation and management and to support profitability during unstable market conditions. The Dairy Cattle Milk Recording Working Group would like to thank all of the participants for their support and for providing data for this research.

Keywords: management of milk recording organisations, Dairy Cattle Milk Recording Working Group

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Introduction

The survey is an official project of the ICAR Dairy Cattle Milk Recording Working Group and summarises the current trends affecting the management and organisation of milk recording organisations. These include strategies, financial management, ownership, human sources, fee and pricing policies, subsidies and support for milk recording organisations, advisory services, research and development, consolidation, data safety policy, expansion to international markets, services, costs, quality management, SWOT analysis and other relevant areas. It is crucial to benchmark the variety of methods used in respective countries and to appraise the future requirements of customers and organisations involved in milk recording. This in turn will allow the DCMRWG to plan in accordance with the needs of milk recording organisations and customers.

In line with the group's strategy, one of the main tasks will be to resolve several specific aspects of milk recording, including methodological and technical aspects and current practical managerial and organisational problems. Outcomes from this project will (a) provide

recommendations relevant to management, (b) summarise the main trends in management among milk recording organisations, (c) evaluate managerial practices and (d) help to find solutions to potential issues.

Materials and Methods

Data were obtained from 41 organisations from Europe, North America, South America, Africa and Asia. Table 1 shows the organisations, countries and responsible persons that provided raw data for the analysis. The questionnaire was carried out in 2015 and comprises 51 questions. SurveyMonkey software was used to collect data.

Table 1. Organisations (countries) that provided raw data along with relevant contacts

Organisation	Country	Respondent
Executive Agency for Selection and Reproduction in Animal Breeding	BGR	V. Nikolov
Polish Federation of Cattle Breeders and Dairy Farmers	POL	D. Radzio
TINE SA	NOR	T. Roalkvam
NorthStar Cooperative	USA	K. Haase
Innovative Agricultural Services	ROU	C. Popa
CONVIS soc.coop.	LUX	A. Braun
AgSource Cooperative Services	USA	A. Coburn
ProAgria Group	FIN	J. Kyntäjä
Czech Moravian Breeders´ Corporation, Inc.	CZE	P. Bucek
LPT Ltd. (ÁT Kft)	HUN	J. Kótiné Seenger
Progressive Genetics	IRL	L. Feeney
CRV	NLD	L. van Keulen
South African Std Book and Animal Improvement Association	ZAF	J. van der Westhuizen
CONAFE (Spanish Holstein Confederation)	ESP	S. Alday
Association nationale des éleveurs de bovins Maroc	MAR	N. Belkadi
Växa Sverige	SWE	Nils-Erik Larsson
Agriculture Data Centre	LVA	E. Galvanovska
Eesti Põllumajandusloomade Jõudluskontrolli As	EST	A. Pentjärv
German Association for Performance and Quality Testing	GER	F. Onken
CanWest DHI	CAN	N. Petreny
BAIF Development Research Foundation, Central Research station, Urulikanchan	IND	R. L. Bhagat
Agricultural faculty of Novi Sad	SRB	M. Pećinar
ASR: Association of Swiss Cattle Breeders	CHE	E. Barras
RJA&HS	JEY	D. Hambrook
Association Wallonne de l'Elevage asbl	BEL	X. Massart
Lancaster Dairy Herd Improvement Association	USA	J. High
Israel Cattle Breeders Association	ISR	Y. Lavon
France Conseil Elevage	FRA	C. Lecomte
Cattle Information Services	UK	S. Harding
State Animal Breeding Supervision Service under the Ministry of Agriculture	LTU	D.Laureckaitė-Tumelienė
National Milk Records PLC	GBR	T. Craven

The Icelandic Agricultural Advisory Centre	ISL	G. Johannesson
Munster AI	IRL	M. O'Keeffe
RYK	DNK	U. Lauritsen
QMMS Ltd	GBR	A. Bradley
LKV Lower Austria	AUT	K. Zottl
Associação Paranaense de Criadores de Bovinos da Raça Holandesa	BRA	J. A. Horst
ACHA	ARG	L. Chazo
Cooprinsem	CHL	A. Alocilla
Instituto Nacional para el Mejoramiento y Control Lechero	URY	F. Sotelo
Asosimmental - Simbrah Colombia	COL	F. Rapaioli

68% of organisations represented their entire country while 32% only partially represented their country. Basic information about the project is shown in Table 2.

The number of milk recording organisations represented varied greatly from country to country. 32% of countries had only one milk recording organisation, 41% had 2-10, 12% of had 11-20, 6% had 21-40 and 9% had more than 40.

Table 2. Extent of the project.

Indicator	Number
Number of organisations to complete the survey	41
Continents	North America, South America, Europe, Asia and Africa
All dairy cows	44,045,330
Recorded dairy cows	20,599,077
Recorded dairy cows covered by your organisation	16,511,197
Number of recording organisations	394
Number of laboratories	198
Number of AI organisations	More than 250
Number of breeding organisations	More than 238

Organisational structure and ownership

The hierarchical structure is most commonly used followed by matrix and strategic business units (Table 3). 7% of organisations used. The following comments were made:

- Most organisations use a matrix organisational structure – a central office with regional offices
- We use a similar structure for our controlling organisation with local organisations running central operations. It is a slightly different model compared to traditional hierarchical organisations
- This is a reply from an umbrella organisation where members are mostly hierarchical structured:

  For the definition of organisational structure we used the following definition (Table 3):
- Hierarchical – only one organisational level (e.g. CEO, managers, assistants, etc.). Each manager is directly responsible for his/her subordinate and cooperation of such organisations

- Matrix organisational structure – classical vertical line structure, combining horizontally ad-hoc teams responsible for specialist projects. Project-oriented organisations. Project teams are assigned to different leaders and roles. Teams are created from members in different departments
- Strategic Business Units – decisions are delegated to departments
- Other, please specify

Table 3. How is your organisation structured?

Organisational structure	Number of organisations	Share in %
Hierarchical	26	63
Matrix	8	20
Strategic business unites	4	10
Other, please specify	3	7
Number of responses	41	100

Most of the organisations in milk recording operate without the government of another public body ownership. The share of such organisation was more than 70%. 17% of organisations listed government ownership and 7% listed another type of public body ownership. Milk recording organisations generally operate independently of government and other types of public body ownership (Table 4).

Table 4. Is there any public ownership (government) of your organisation?

Response	Number of organisations	Share of organisations in %
Yes, government	7	17
Yes, another public body	3	7
No	31	76
Number of responses	41	100

Most milk recording organisations own their laboratories, but the share of these organisations was less than 50%. The share of organisations that do not own laboratories is also relevant (37%). 17% recorded different types of ownership. Each approach comes with its advantages and possible disadvantages. For example, if the laboratory is owned by the milk recording organisation operations are less problematic. However, if money is needed for investment in ISO, customers, there are further responsibilities, including issues related to expensive charges, day-to-day activities, logistics, etc. If the laboratory is not owned by the MRO, supervision of the external laboratory brings flexibility in terms of decision-making, etc. Comments on different types of ownership were as follows: the organisation is a supervised body, milk processing plants run milk analysis, some laboratories are independent and some belong to milk recording organisations and regional government, combination of ownership of some laboratories with services from external laboratories (sometimes due to reasons of geography). We ran 2 milk recording projects – for one the project sponsor provided the funding for creating the facility and for the other we received help from another agency. Some local milk recording organisations have own laboratories and some use service from milk processing plants (Table 5).

Table 5 Does your milk recording organisation own a milk analysis laboratory(ies)?

Response	Number of organisations	Share of organisations in %
Yes	19	46
No	15	37
We use a different approach (please provide a brief description)	7	17
Number of responses	41	100

Consolidation of milk recording organisations, mergers/take-overs

The economic conditions, pressure on the market, decrease of number of cows in some countries, decrease of subsidies and other factors will lead to possible mergers and take overs of milk recording organisations. Almost 30% of milk recording organisations involved in the project noticed trends of mergers/take overs. It means that the consolidation of milk recording is a relevant process in some countries. This trend is expected to continue in the future (Table 6).

Table 6. Is there a trend in milk recording mergers/take-overs, including milk analysis labs and data processing centres?

Response	Number of organisations	Share in %
Yes	11	29
No	27	71
Number of responses	38	100

The main reasons for acceding to a merger or take-over must be interpreted very carefully because there are specific conditions in particular countries and also the situation before mergers is different among countries. Most common answers were optimisation of processes and economy of scale followed by critical mass for investments and synergy, common activities, avoiding decreases in cows and other reasons. In any case it is very important to implement cost-cutting measures. 52% of organisations mentioned 1 or 2 reasons for mergers or take-overs, 12% of organisations 3 reasons and 36% more than 3 reasons (Table 7).

Table 7. In the event of acceding to a merger or take-over, what would be the main reasons for doing so?

Response	Number of organisations
Optimisation of processes	18
Synergy	12
Common activities	11
Avoid decrease in cows	3
Economy of scale	18
Critical mass for investments	12
Other	1

Employees of milk recording organisations and working hours devoted to milk recording

Most organisations report total numbers of employees at intervals of 51-200, less than 50 and 201-1,000. The smallest share of organisations reported more than 1,000 employees. Analysis shows that more than 50% of organisations had less than 50 or between 51-200 employees. The share of organisations for the higher interval was lower (Table 8).

Table 8. How many employees in your organisation are working in milk recording?

Response	How many employees (for all activities, total number of employees) are there in your organisation?		How many employees in your organisation are working in milk recording?	
	Number of organisations	Share of organisations in %	Number of organisations	Share of organisations in %
Less 50	13	32	21	51
51-200	14	34	13	32
201-1000	9	22	4	10
More than 1000	5	12	3	7
Number of responses	41	100	41	100

Most organisations reported a percentage of working hours devoted to milk recording in intervals of less than 25% (39% organisations), followed by intervals of 51-70% (24% organisations), and 26-50% (22% of organisations). The smallest share was at an interval of more than 75%. Therefore, activities other than milk-recording are more important for MROs. From the other comments: some organisations ensure services for small and fragmented farms, for organisations with method A it is labour intensive to travel to farms. One organisation reported a 100% involvement only in milk recording.

Table 9. What percentage of your organisation's working hours is devoted to milk recording?

Response (interval in %)	Number of organisations	Share in %
Less than 25	16	39
26-50	9	22
51-75	10	24
More than 75	6	15
Number of responses	41	100

Fee scheme in milk recording and its construction

Most organisations use 1 to 3 combinations of fee scheme. Only two reported more than 3 combinations. The most common option mentioned was a monthly fixed fee or fee per recording and additional fees for extra services. Annual fixed fee per cow, annual fixed fee per herd and variable payments expressed for real costs are a less common option used by milk recording organisations (Table 10).

Table 10. What fee scheme do you have in place for milk-recording services?

Fee scheme	Number of organisations
Annual fixed fee per cow	10
Annual fixed fee per herd	9
Monthly fixed fee or fee per recording	26
Additional fees for extra services	21
Variable payments expressed for real costs	9

Table 11. Please tick the options included in the minimum payment for recording

Response	Number of organisations
Basic milk analysis	38
Data processing	36
Sample transport	35
Reports/outcomes for farmers	32
Supervision	28
Travel costs for technicians	28
Web service for farmers	25
Milk-recording by technician	24
Recording and sampling equipment	22
Data capture by technician	21
Interpretation of reports with the farmer	16
Apps for mobile devices	10
Animal identification system	10
Advisory services	6
Other	6
Animal identification equipment	3

Table 11 shows the minimum payment for milk recording and the number of organisations that used each option. It is common that organisations use a combination of more than one option. Some organisations reported other options: any activity in connection with selection – herd-book keeping, estimation of breeding values, part selection for breeding, selection of bulls, all lab analyses - including casein, lactose, urea, SCC, BHB and acetone are included in the MR fee. Some reports are included in the fee while others are additionally ordered and paid. MR fees vary depending on the owner of the MR equipment (samplers, or calibrated milk meters), animal health and pathogen diagnostics. Some organisations use web services including apps. Funding is also available for vaccinations, e.g. Brucellosis.

Table 12 shows the situation for additional payments. The following responses were given: feeding advisory is additionally ordered and paid, advisory protocol, disease testing, parentage verification whenever the bull calf is procured for breeding purposes, health testing, genomic testing. pregnancy checking, milk fridge and electronic scales calibration service, pregnancy and Johne's testing, providing equipment for leases (milk meters and AMS samplers), by now no service payments, lameness report, pregnancy test and control diseases, grade registration.

Table 12. Please tick additional payment options provided by your organisation.

Response	Number of organisations
Additional milk analysis	23
Advisory services	21
Interpretation of reports with the farmer	15
Milk-recording by technician	14
Web service for farmers	13
Apps for mobile devices	13
Recording and sampling equipment	13
Reports/outcomes for farmers	11
Data capture by technician	11
Animal identification equipment	10
Animal identification system	9
Other options	9
Data processing	7
Travel costs for technicians	7
Sample transport	5

Table 13. Does your pricing vary according to herd size?

Response	Number of organisations	Share of organisations in %
No, it does not vary	14	34
Yes, the price per cow decreases with herd size	24	59
Yes, the price per cow increases with herd size	3	7
Number of responses	41	100

There is high variability in herd sizes among organisations, which has a significant impact on milk recording costs, particularly fixed costs. Almost 60% of organisations adopt a policy whereby the price for milk recording decreases with larger herd sizes. 34% of organisations indicated price did not depend on herd size. The pricing policy whereby price increases according to larger herd sizes was less common (Table 13).

Subsidies play an important role for milk recording organisations. Conditions vary among countries and the share of farmers who pay different prices for the service also varies (Table 14). Possible additional financial sources are shown in Table 15.

Table 14. How were milk recording services paid for in 2015 (or 2014)? Please enter the share in %.

Interval (milk recording services paid by the farmer in %)	Number of organisations	Share of organisations in %
Less than 20	4	10
21-40	6	15
41-60	4	10
61-99	10	25
100	16	40
Number of responses	40	100

Table 15. Additional sources of possible financial sources for milk recording.

Possible financial sources for milk recording (do not include farmer payment for milk recording)	The share of financial sources in interval in different organisations in the project
Payments from AI - business	0-40
Payments from breeding organisations	0-33
Payments from the dairy industry	0-60
Public Sources	0-40
Government	0-100

The scope of internationalisation in cattle milk recording

Analysis of the involvement of milk recording organisations abroad revealed interesting figures (Table 16).

Table 16. Do you offer your services to farmers in foreign countries (sample-taking, laboratory delivery, laboratory and data processing)?

Response	Number of organisations	Share of organisations in %
Yes	3	8
No	28	78
Other (specific case of yes or other specific cases)	5	14
Number of responses	36	100

Three organisations in the project offered these services and 5 marked specific cases for international activities (Table 16):

- Data processing
- We do not offer any DH recording services in foreign countries. But we offer extra services in foreign countries, e.g. feed analysis
- Raw milk analysis of the bulk milk of farms in foreign countries in accordance with the quality and payment regulation on behalf of German dairy factories.
- In Ireland we have a payment lab in partnership with Progressive Genetics where we also run herd improvement samples
- Occasional services other than milk recording

The involvement of foreign organisations on the market in each milk recording organisation was also analysed. Only 3 organisations reported that foreign organisations were involved. Most operate without the involvement of foreign milk recording organisations on the national market.

Table 17. Do any foreign milk recording organisations offer services to farmers in your area?

Response	Number of organisations	Share of organisations in %
Yes	3	9
No	32	91
Number of responses	35	100

Table 18.Are you planning to expand abroad and/or form alliances with foreign companies in the future?

Response	Number of organisations	Share of organisations in %
Yes	7	21
No	27	79
Number of responses	34	100

There is a significant trend for MROs planning on expanding abroad. 7 organisations are planning to expand abroad and/or form alliances with foreign companies in the future – a potential option for sustainable business.

Evaluation of processes and employees in milk recording organisations

Part of the research also examined evaluation processes (How often do you evaluate your processes/management structure?). This question should again be subjected to close scrutiny. The most common answers were: in the event of changing situations, in the event of introducing new services and at regular intervals every number of years. Under 'other' the following comments were given: twice yearly, umbrella organisation (N/A) or differences between organisations (Table 19).

Table 19. How often do you evaluate your processes/management structure?

Response	Number of organisations
According to requirements	25
In the event of changing situations	14
In the event of introducing new services	11
At regular intervals every number of years	10
Any comments	3

The common standard for evaluating employees is to do so annually. Only some respondents evaluated employees less than once a year or more than once a year (Table 20).

Table 20. Are employee evaluations carried out?

Response	Number of organisations	Share of organisations in %
Annually	31	89
Less than once a year	2	6
More than once a year	2	5
Number of responses	35	100

Future milk recording strategy and introducing new services

One of the key parts in the questionnaire was the evaluation of future milk recording strategies among milk recording organisations. The most frequent answers (more than 20) concerned electronic-based reporting, new online services, improving fertility services, feeding and health management, cost cutting, advisory services, employing cutting-edge technology and new benchmarks. Most of the organisations combined a mix of different strategies, as shown in Table 21. Under 'other' the following options were recorded: all

services aimed at an increasing the profitability of farmers, new health tests through Antel Bio, increasing access to data more quickly for all customers, higher level of automation using any technology that supports this and to expand abroad, milk recording services in neighbouring countries.

Table 21. What is your future milk recording strategy?

Response	Number of organisations
Electronic reporting	30
New online services	28
Improving the service for fertility, feeding and health management	27
Improving the service by the use of milk analysis spectra	26
Cost-cutting	23
Advisory services	22
Employ cutting-edge technology	21
New benchmarks	21
New traits	20
New summaries	16
New business areas (including options outside milk recording)	15
Higher level of automation in laboratories	12
Quality assurance system for the food chain	9
Other options	5
Higher level of automation using TRU TEST EMM	2

The table summarises the areas where milk recording organisations have introduced new services and the main trends in development over the last couple of years. Such areas included computerisation, software, automatic data transfer, herd management, genomic selection and new traits, services and new data not always connected with traditional milk recording. The table also includes other areas where new services have been introduced. The DCMRWG will analyse these trends together with future strategies and other responses in the questionnaire and establish a set of responses to these requirements (Table 22).

Table 22. In which areas have you introduced new services within the last 6 years (since 2010)?

Response	Number of organisations
Computerisation, software, automatic data transfer	26
Herd management	22
Genomic selection	20
New traits, services, new data, not always connected with traditional milk recording	19
Health traits: new modern sophisticated indicators	18
Feeding	17
Milk quality	15
Animal welfare	13
Quality assurance	10
Other (please specify)	3

New advisory services and research requirements

The most common response is to ensure basic requirements and the implementation of relevant advisory services. Almost 80% of organisations offer advisory services while the share of organisations without advisory services was just over 20%. Advisory services are a prospective way of maintaining sustainable services (Table 23).

Table 23. Do you offer advisory services?

Response	Number of organisations	Share of organisations in %
Yes	30	77
No	9	23
Number of responses	39	100

Advisory services are routinely employed among milk recording organisations (Table 24). The most common are fertility and pregnancy checks following by herd management, feeding, health traits, technical milking parlours, meters and other services.

Table 24. In which field do you offer advisory services?

In which field do you offer advisory services?	Yes, it is offered	Paid by basic fee	Additional payment
Feeding	13	5	11
Herd management	16	8	13
Health traits	12	6	11
Technical milking parlours, meters	7	3	8
Fertility and pregnancy check	18	4	16
Others	4	2	7

Other responses (others in Table 24) and comments included:

- Professional conferences, technical training sessions for partners, farmer vets is a dairy issue, company issues a monthly professional magazine for our partners (for free)
- Breeding and selection advice
- Technical milking parlours test all equipment. Relief service supplies are provided including the cleaning of cowsheds, dairies, barns, etc. Växa Sverige also carry out concrete reparations of cowsheds, dairies, cubicles, feeding areas
- Consultation on EU regulation and legislation in animal breeding, correct data collection and input in milk recording
- Herd Management Programme
- Economy, environment
- Johne's disease
- We do not offer advisory services beyond basic milk recording and data collection. When we do it is only by experts in the field and at full expenses to the farmer
- Data analysis software for vets/consultants

MROs mostly offer more than 1 advisory for their customers. Research shows that 1 option was used by 10% of organisations, 2 options by 20% of organisations, 3 options by

25% of organisations, 4 options by 25% of organisations, 5 options by 15% of organisations and 6 options by 5% of organisations.

The DCMRWG will analyse interest in the research requirements of milk recording organisations (Table 25). The table shows the survey responses, most of which favour research into 24-hour calculation, new traits, in-line analysis, sampling, plausibility checks among other responses. All research priorities are the subject of on-going discussion within the DCMRWG. Appropriate outcomes will be available in Chile.

Table 25. Which areas do you think need additional research?

Response	Number of milk recording organisations
In-line analysis	15
Sampling	15
24-hour calculation	30
New traits	25
Plausibility checks	11
Other	4

Under 'other' (other in Table 25) the following responses were recorded:

- Using milk analysis spectra in farm management
- The appropriate resources have already been given to 24-hour calculation compared to other areas
- The factoring parameters set for Holsteins used by recording organisations do not work for the Jersey breed
- New technology in combination with recording methods

Table 26. Are you planning to introduce daily milk recording or are you interested in doing so in the future?

Response	Number of milk recording organisations
Yes in general	7
Yes for milking robots	11
Yes for electronic meters in milking parlours	8
We are not planning to do so in the near future	21
Other options or comments	4

The survey analysed the interest in daily milk recording. More than 50% of organisations (of the 21 organisations) recorded no interest (Table 26). Of the organisations to show interest, 7 supported the concept in general, 11 supported it in relation to milking robots, 8 for electronic milk meters and 4 supplied other options/comments. Some interested organisations marked more than one option (e.g. only in the case of milking robots, milking robots and electronic milk meters, etc.).

Customer requirements necessitate different approaches. The table summarises responses to the question below: more than 50% deemed it useful for customers, 34% adapted it for additional services, 5% marked YES and 7% marked NO (Table 27).

Table 27. If a group of farmers were to request different services, would you change your services?

Response	Number of organisations	Share of organisations in %
No	3	7
We would adapt additional services	14	34
We would assess whether it would be useful for our customers	22	54
Yes	2	5
Number of responses	41	100

Selected indicators related to subsidies and other financial sources/trends

The research shows that more than 50% of organisations worked without direct subsidy or financial support (53%). Marginally less (47%) registered some financial support, as shown in Table 28. Other selected indicators related to subsidies or public sources are given in Tables 29 and 30.

Table 28. Do you receive direct subsidies or financial support for any part of the recording process?

Response	Number of organisations	Share of organisations in %
No, all services are paid for by the customer.	21	53
Yes, some services receive financial support from government or public funds	19	47
Number of responses	40	100

Table 29. Where financial support from government/public funds/industry is received, are these funds likely to change?

Response	Number of organisations	Share of organisations in %
Likely to decrease	12	44
Likely to increase	3	11
Likely to remain unchanged	12	45
Number of responses	27	100

Table 30. If there are any, do public payments differ in accordance with herd size?

Response	Number of organisations	Share of organisations in %
Yes	7	25
No	17	61
Other	4	14
Number of responses	28	100

In some countries farmers receive public funding for recording fees. These options are given in Table 31.

Table 31. Do farmers receive any public refunds for recording fees?

Response	Number of organisations
No	30
Quality assurance payments	6
AI refunds (e.g. lower price for semen)	4
AI refunds for testing sires	3
Other	7

Other options for Table 31 include:

- Small and medium-size enterprises do not pay 100% of the MR fee. They benefit from governmental subsidies. Better milk prices depend on the respective dairy plant or cooperative – it is not a rule that MR farms give better prices for their products.
- Some municipalities give money for milk recording
- A special system in Hungary finances official breeding, performance recording and data collecting activities under the framework of the Hungarian breeding structure. The amount of the normal milk recording fee for the farmer could be reduced by €2.53 per cow annually in any given year. Criteria: data should be sent to the central database and used to maintain the national breeding programme (e.g. lactation calculation and breeding value estimation). The money is transferred through the Breed Associations (Herd Books) to the service provider to reduce milk recording fees, and not directly to farmers
- On providing complete lactation records by particular animal farmers Rs.1000 incentives from project funding are awarded
- Direct subsidies per cattle
- Some farmers may receive recording fees paid for by their milk buyer
- Some municipalities give very little support to farmers covered in the milk recording system

Data safety policy

Data protection is a crucial area for MROs. Most organisations use secure access to protect data. Other methods such as data protection declaration and standardised destruction of printouts are less common. One organisation operated a system of individual authorisation of data sharing with specific industry entities. Other organisations recorded more than one option, as shown in Table 32.

Table 32. How do you keep your data safety policy on track?

Response	Number of organisations
Data protection declaration	15
Secured access to protected data	30
Standardised destruction of printouts	9
Others	1

Milk recording data are shared with other organisations and bodies in our industry, the most important of which are veterinarians followed by AI companies, ministries of agriculture, feed advisory bodies, governments, commercial companies among others. Only one organisation did not share data. Most organisations share data with more than one body.

Table 33. Do you share data with other bodies?

Response	Number of organisations
No, we do not share data	1
Veterinarians	24
Feed advisory bodies	15
Commercial companies	11
Government	14
Genetic evaluation	32
Ministry of agriculture	16
AI	22
Other	9

Other options given in Table 33 include:

- Universities as well as farmers are direct data owners and where data is identified the necessary agreements are drawn up
- AI/milk recording/health/advisory services are all parts of Växa Sverige. Some independent advisors and veterinarians gain access to customer data. The Swedish University of Agriculture is permitted access to data as per separate project agreements
- Breeding organisations by contract
- With data release declaration (i.e. feed advisory bodies and vets) the MRO statute is ensured (i.e. genetic evaluation, ministry...)
- Breed associations (records for pedigrees) and research all fall under the appropriate confidentiality agreements
- Sponsored project data are shared as per MOU
- Research bodies
- Sharing is only permitted upon the consent of the farmer
- We provide data to bodies upon the request of the farmer

Monitoring interest in milk recording

Based on the representative sample of organisations (countries) it is expected that interest in milk recording will either increase or remain the same (81%). On the other hand, 17% of organisations expect a decrease in interest with one organisation marking another option (Table 34).

Table 34. Have you observed a change of interest in milk recording?

Response	Number of organisations	Share of organisations in %
Decrease	6	17
Increase	18	50
No	11	31
Other, non-specified response	1	2
Number of responses	36	100

Taxes and insurance incentives for farmers

Economic conditions are crucial for dairy cattle milk recording. Some countries employ tax or insurance incentives for farmers. The share of these incentives is relatively low with 15% of

organisations reporting the use of tax incentives and 18% health insurance incentives (Tables 35 and 36).

Table 35. Are any special tax incentives for farmers used?

Response	Number of organisations	Share of organisations in %
Yes	6	15
No	34	85
Number of responses	40	100

Table 36. Are there any special incentives for farmers' health insurance?

Response	Number of organisations	Share of organisations in %
Yes	7	18
No	33	82
Number of responses	40	100

Remote work

In the current economic climate there is market pressure to cut costs and ensure flexibility for employees of milk recording organisations. According to the survey 56% of organisations used remote work for some positions, 12% planned to and 32% did not (Table 37). Other details are shown in Table 38.

Table 37. Is remote work a regular part of your organisational activities?

Response	Number of organisations	Share of organisations in %
We work remotely in some positions	23	56
We plan to increase the share of remote work in the future	5	12
No	13	32
Number of responses	41	100

Table 38. If you do work remotely, which positions are catered for? What benefits have you seen?

Indicator	Managers	Specialists	Technicians	All positions
Reduction in costs	9	5	9	4
Higher productivity	11	9	9	6
Higher satisfaction of employees	10	9	8	6
Better life/work balance	10	8	7	6
Other	0	1	2	1

Does your milk recording organisation evaluate food chain quality?

A prospective way for milk recording organisations to improve sustainable business and expand services is to evaluate food chain quality. More than 40% of organisations do so (Table 39).

Table 39. Does your milk recording organisation evaluate food chain quality?

Response	Number of organisations	Share of organisations in %
Yes	16	41
No	23	59
Number of responses	39	100

Quality assurance

As an industrial standard, the ICAR Certificate of Quality has been awarded to more than half of the organisations. Some are ISO-certified with ISO accreditation common among milk laboratories. Other accreditations include NDHIA standards and audits, own guidelines (other accreditations include NDHIA Uniform Operating procedures and auditing by Quality Certification Services in the US), UK- based CIS for all recording purposes, assurance qualifications, milk meter technical assistance and calibration laboratories – LST EN ISO/IEC17025:2005.

Opinions on ways to cut costs and combat reductions to financial resources

The survey examines the opinions of milk recording CEOs and managers on how to combat reductions to financial resources and cut costs. These results are summarised in Table 40 and Table 41. All indicators and results must be interpreted with respect to the different economic conditions for each MRO. Each case is specific and unified solution is not often viable. Only general recommendations are given for the problems covered in Tables 40 and 41. All potential processes must be analysed by milk recording organisations on an individual basis.

Based on the response to the question below, the most common answer given was to redesign pricing policies, redesign all processes or close less profitable services (Table 40). The table below shows further options.

Table 40. If your sources of financing were to decrease how would this issue be resolved?

Response	Number of organisations
Consolidation	11
Merger or take-over	5
Reduce the number of local branches	6
Rapidly cut staff	10
Rapidly close less profitable services	12
Redesign pricing policy	26
Selling of property (buildings, etc.)	2
Redesign all processes	19
Enter new fields of business (specify)	6

Table 41. Which type of cost-cutting option would you prefer?

Response	Number of organisations
Increase farmer involvement in the recording and sampling process (Method C or B)	16
Encourage longer recording intervals	8
Encourage longer sampling intervals (some recordings are non-sampled)	8
In-line sensors	4
Automatic or remote data capture	21
Cooperation in data processing	9
Reduce overhead costs	20
Technician routes, travel optimisation	20
Other	3

Table 41 shows the cost-cutting options preferred. The most common include: automatic or remote data capture, reduction of overhead costs, technician routes, travel optimisation and increasing farmer involvement in the recording and sampling processes (Method C or B). Options marked other were less common. Many organisations combined one or all of the above measures. Other options included: reducing/eliminating milk recording costs for small farms, method B, umbrella organisation (N/A), improvements continuously sought.

General comments on the importance of milk recording as a business

The analysis shows that for more than half of the organisations milk recording is their most important business (Table 42). The share of organisations for which milk recording is not their main business was less than 50%. However, for organisations reporting milk recording as their main business they were also involved in other activities, e.g. herdbooks, type conformation, advisory services, national breeding programmes, quality management, laboratories, field work, cooperation with AI stations, etc. For organisations not reporting milk recording as their main business, other activities listed were advisory services, identification and registration, BVE, type classification, data processing and database and other livestock animals (e.g. beef cattle, sheep, goats, horses, etc.). Only one organisation reported that milk recording consisted of 50% of its activities.

Table 42. Is milk recording the most important business for your organisation?

Response	Number of organisations	Share of organisations in %
Yes	23	56
No	17	41
Other	1	3
Number of responses	41	100

Q: Is there any connection/involvement between AI companies and milk recording organisations? A: 63% of organisations responded YES, 37% answered NO.

Summary of the position of milk recording organisations

The survey summarises the position of milk recording organisations and outlines their main responsibilities:

- Data management
- Milk recording
- Advisory services
- Identification
- Artificial insemination
- Information products
- Animal breeding
- Herd management
- Cattle breeding
- Other

What are your general principles for customers and employees? What is your mission statement?

Table 43 shows a selection of responses with regard to mission statements and general principles for customers and employees.

Table 43. A selection of responses with regard to mission statements and general principles for customers and employees

Mission statement and general principles for customers and employees
1. Honesty 2. Efficiency 3. Reliability
Increase the MR population and service more farmers.
Develop advisory services.
Increase producer profitability through integrated services.
Deliver quality, efficient and accurate analysis and provide valuable information and innovative solutions to improve decision-making and the profitability of members and customers.
Support the sustainable business of customers, ensure state-of-the-art facilities and continuously keep pace with global innovation.
Provide value for customers.
Play a significant role in genetic improvement.
Pursue a competitive advantage for our customers in the global marketplace. Provide herd management products and services, maximise sustainable net income and prioritise excellence in customer service, product and service innovation, quality staff and fiscal responsibility.
Improve the use of obtained data in order to increase customer profitability and competence.
Involve all leading cattle organisations in order to improve standards of service, accuracy and value throughout all dairy herd management information practices.
Commit to providing innovative and effective solutions for customers, thereby improving customer productivity and profitability.
Provide data and information for farm management.
Deliver a cost-effective service focused on ‘adding value’.
Serve as the core data processor for dairy farmers.
Other

SWOT analysis

A. Possibilities

1. Services
- New services
- Advisory
- Whole process

2. Expansion
- Expansion
- Lack of competition
- Abolition of milk quota
- Data from various sources
- Unified national lab
- New health traits

3. Tailor-made outcomes
4. Members – customer relationships

B. Threats

1. Milk price
- Imports of dairy products

2. Sensors
3. Competition
- DHIA, MROs
- Foreign competitors
- MR

4. Founding and politics
- Agriculture policy
- Founding

5. Regulation, legislation
6. Climate
7. Genomics
8. Decreasing market

9 Hostile politics (public)
- Environment

C. Weakness

1. Finance (daily work)
- Founding, fee structure, external sources, decreasing customers, selling service

2. Staff (daily work)
- Recruiting, payment, training and managing, age

3. Grown structures
- Difficult to merge

4. Equipment
- IT system, Lab., meters, reliability of disease, testing

5. Supervision, limited control abilities

6. More diverse, demand from customers
7. Interactive communication

D. Strength

1. Staff
- Dedication
- Experience
- Efficiency

2. Unification
- Work flow, data processing, experience, software

3. Customers
- Quick reporting, comprehensive, interactive reports, herd management, well perceived in the community, breeders support, accuracy, quality checks. Market share.
- Innovations

4. Organisation
- Integrity
- Knowledge
- Competencies

5. Labs
6. Fianance
7. Synergy
8. Health
9. Research and development
10. International ties

Conclusions

The project summarises selected aspects of management among milk recording organisations. The main trends and key results are:

- All international territories including Europe, North America, South America, Asia and Africa are covered, comprising 41 organisations in total.
- Different ownership schemes and milk recording laboratories are used.
- The most common organisational structure among milk recording organisations is hierarchical.
- Most milk recording organisations operate privately.
- There is a trend for mergers and take-overs among milk recording organisations.
- It is most common to levy a monthly fee for milk recording services, which are also linked to the amount of cows registered in databases.
- It is most common to levy a monthly fee for milk recording services.
- 40% of organisations report that fees are paid by farmers, while external financial sources play an important role for other organisations.
- There is a growing trend towards the internalisation of milk recording activities.
- Future strategies mostly include electronic reporting, new online services, improving fertility services, feeding and health management, cost-cutting, advisory services, the use of cutting-edge technology and new benchmarks (more than 20 responses).
- 77% of milk recording organisations are involved in advisory services.
- MROs see the need for research, especially in 24-hour calculation, new traits, in-line analysis and sampling.

- 53% of organisations do not receive direct subsidies or financial support for any part of the milk recording process, while most organisations do not expect public financial sources to increase.
- Tax and insurance incentives for farmers are not the norm.
- Remote work is being increasingly prioritised.

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