

A study of Human Resource Management practices on Irish dairy farms

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Abstract: Managing people outside the farm family unit is a relatively new issue for many farmers. In the context of unprecedented dairy expansion the management of employees has become crucially important to dairy farmers in Ireland. This paper explores the Human Resource Management (HRM) practices implemented by Irish dairy farmers. Farmers were selected at random based on herd size and location. A questionnaire was developed, piloted and issued to each farmer. Data was coded and analysed, using one way ANOVA and Chi-square tests. Farmers with three or more employees (FE 3) took significantly more time off throughout the year. The most common recruitment practice used by farmers was 'word of mouth' (41.9%). Farmers in FE 3 used 'work of mouth', family members and Farm Relief Service (FRS) to recruit employees significantly more than farmers with only one employee (FE 1). Significantly more farmers in FE 3 used automatic debit as a method to pay employees than FE 1 and farmers with two employees (FE 2). More farmers in FE 3 had employment contracts, issued and retained payslips compared with FE 1 and FE 2 ($P<0.05$). In total, 9.4% of farmers with employees reported that they had an employee details form with significant difference between FE 3 and FE 1. Overall, 14.3% of the farmers had a position/ job description in place for employees. A lower percentage of farmers in FE 1 had a position/ job description for employees compared with FE 2 and FE 3 ($P<0.001$). Overall, 26.6% of the farmers recorded employees time worked. A higher percentage of farmers in FE 3 paid for staff training or further education compared with FE 1 and FE 2 ($P<0.05$). The results of this study show that HRM practices used on farms are predominantly informal with improvements required to formalise some of these practices particularly in terms of legal compliance. With a highly competitive labour market across all sectors of the Irish economy, farmers must focus on adopting HRM practices that will make their farm a more attractive place to work, comply with employment law, provide training opportunities and focus on the career development of their employees as part of their future business strategy.

Keywords: human resource management, people, irish dairying, employee, workplace

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Introduction

The agricultural workforce in developed countries has progressively evolved into a smaller proportion of the total workforce and a secondary role in overall employment (OECD, 2018). One of the main challenges facing farmers is to source adequate skilled labour to assist them in meeting their farm targets (Deming *et al.*, 2020; Kelly *et al.*, 2020). Post milk quota abolition in the EU, dairy farmers have capitalised on the opportunity to grow their business, which has resulted in increased milk production and herd sizes (Dillon, 2011) as well as an increased demand for labour input (Deming *et al.*, 2020). There are approximately 18,000 dairy farmers and 1.5 million cows in Ireland (IFA, 2020). On average, Irish dairy farmers have a herd size of 90 cows (IFA, 2020) and 58.9 hectares (NFS, 2020). In 2016, there were 265,400 people employed in the agricultural sector in Ireland, of those, 52% were farm holders, 41% were family members and the remaining 7% were non-family workers (CSO, 2016). It is unclear how many farm workers are employed full-time or part-time. It is predicted that an additional 6,000 people will be required to meet the continued expansion demands of the industry by 2025 (Teagasc, 2017).

Traditionally, dairy farmers have relied on family members to assist with the labour needs of the farm on an *ad-hoc* basis. However, family labour is not as readily available as it once was due, *inter alia*, to farm succession issues and more family members pursuing alternative careers (Barclay *et al.*, 2007; Chiswell and Loble, 2018). This has led to an increased demand for farm employees, requiring dairy farmers to assess and develop their human resource management (HRM) skills (Mugera, 2004; Bitsch *et al.*, 2006; Nettle, 2012).

Organisations that employ effective HRM practices positively impact the business by assisting the employer to select, develop, motivate and retain skilled and competent employees as well as providing a structure to help employers meet their legal requirements (Wright *et al.*, 1994; Kotey and Slade, 2005). Formal written HRM practices benefit employees by providing the employee with a clearer understanding of what each HRM practice entails and their value to the business (De Kok and Uhlaner, 2001). However, not all farmers require formal HRM practices on their farms. On small farms the close relationship between the employer and the employee, family members and seasonal labour input may replace the need for formal controls, procedures and documentation associated with a large business (Kotey and Slade, 2005). According to Armstrong and Taylor (2020), this type of employment relationship is known as a psychological contract, which presumes certain assumptions and expectations of work and behaviour of both the employer and the employee.

The management of people is a relatively new issue for dairy farmers (Nettle, 2012) as management in agriculture has traditionally been associated with farm operations and livestock (Howard *et al.*, 1991). Previous studies have focused on individual HRM practices, such as remuneration, recruitment (Chiswell and Loble, 2015), employee management (Durst *et al.*, 2018), work productivity (Hostiou and Dedieu, 2012), training, and legal issues (Bitsch *et al.*, 2006), and the financial impact of HRM on the business (Huselid *et al.*, 1997; Stup *et al.*, 2006; Ullah, 2013). However, the application of HRM practices in dairy farming is an under researched topic (Ullah, 2013). The objective of this paper is to present the current state of HRM practices on Irish dairy farms as an essential step in designing supports to farmers to improve their management of employees.

Materials and methods

Approval for this study was granted by the Research Ethics Committee of University College Dublin.

Sample Selection

Farmers were selected from the database of HerdPlus (~9,000), the Irish breeding information decision support tool for farmers co-ordinated by the Irish Cattle Breeding Federation (ICBF). The ICBF is an organisation that provides cattle breeding information services to the Irish dairy and beef industries. From 6,668 farmers who granted permission for their details to be made available for research purposes, and an expected response rate of 50% to 60%, 520 farmers were selected. The farmers were randomly selected based on herd size and location to be representative of dairy farmers in Ireland. A sample of this size was deemed necessary to ensure a sufficient observation to cover the estimation of the coefficients for each response and a confidence level of 95% and confidence interval of 5%.

Survey Development and Administration

A questionnaire was designed based on a review of peer reviewed international publications (Dairy Australia, 2017; Ullah and Zheng, 2011). Questions focused on the farmers profile and the HRM practices implemented on farm. The questions were predominantly close-ended, to obtain concise information and

structured in a format to prevent ambiguity, while making it easy for the farmer to understand and complete. Participation was voluntary and the responses were collected by post and by telephone.

To determine feasibility and comprehensiveness of the survey, the questionnaire was piloted with 6 farmers and appropriate alterations were made where required before sending survey packs to the 520 selected farmers. Survey packs contained the questionnaire, a cover letter, a return-addressed envelope, and were mailed to each participating farmer between 20 November and 3 January 2019. A reminder SMS message was issued 4 weeks post-mailing, followed by a reminder telephone call 2 to 4 weeks later. As outlined in the survey pack, farmers had the option of completing the survey by telephone rather than returning their responses via post. The cover letter outlined the purpose of the research, details of collaborating organizations, the time frame in which surveys were to be returned, and assurance that all surveys would be kept strictly confidential. Participation by farmers was completely voluntary and was not incentivised. All surveys, conducted via telephone (n=80) or post (n=235) were entered into survey monkey.

Statistical Analysis

Key variables were coded based on the information collected from the survey questionnaire. Descriptive statistics were used to analyse the data with averages calculated by using the compare means function within SPSS Statistics 24 version (IBM, 2016). Variables were cross referenced by the number of people working on the farm. Statistical tests included an ANOVA to analyse mean differences between the characteristics of respondents on the basis of number of people working the farm. Statistical differences were considered significant using a 0.05 significance level.

Results

The survey response rate was 61% of the 520 invited farmers. All 315 surveys were included in the final analysis.

Of the respondents, 98% were farm owners and 2% were farm managers. Ninety eight percent of respondents were male. The survey respondents socio-economic profile is presented in Table 1. Of the 64% of farmers who employed staff: 37% employed 1 person (FE 1); 17% employed 2 people (FE 2); and 10% employed 3 to 5 people (FE 3). The remaining 36% had no employees (NFE). The average age of respondents was 52.3 years. The number of weekends (*i.e.* Saturday and Sunday inclusive) that respondents did not work on their farm ranged from 0 to 26 per year. The number of holiday days ranged from 0 to 50 per year. Respondents in FE 3 worked the fewest weekends and had the most holidays per year ($P<0.001$). Herd size of respondents ranged from 25 to 700 cows ($P<0.001$). Overall, 59% of farmers achieved a third level qualification (NFE: 47.3%, FE 1: 52.6%, FE 2: 60.4% to FE 3: 75.8%). Overall, 1.8% of farmers in the NFE category had no formal education while all farmers employing people had achieved some form of formal education.

A total of 286 people worked on 64% (n=203) of the farms surveyed. Farm assistants (n=152) were the most common type of worker, followed by herd managers (n=32), relief milkers (n=50), family members (n=51) and administrative staff (n=1). Farmers reported that 57% of the people working on their farms were employed full-time while 43% of staff were employed on a part-time / casual basis. Eighty four percent of the employees were male. Average age of employees was 42 years. All employees had some form of education and 83.9% had a third level qualification. Average duration of employment was 14 years and employees had 18 years of experience in dairying.

	Total	NFE ¹ (n=112)	FE 1 ² (n=117)	FE 2 ³ (n=53)	FE 3 ⁴ (n=33)	P-value
	Mean (SD) ⁵	Mean (SD) ⁵	Mean (SD) ⁵	Mean (SD) ⁵	Mean (SD) ⁵	
Total Responses (n)	315	112	117	53	33	
Age (Yrs.)	52.3 (11.05)	52.7 (9.79)	52.6 (12.13)	53.1 (10.86)	46.5 (10.40)	>0.05
Hours worked per week (Hrs.)	69.1 (13.96)	71.2 (12.05)	69.1 (15.91)	67.9 (13.52)	62.4 (9.87)	>0.05
Weekends off per year (Days)	4.4 (5.48)	2.7 ^a (3.07)	4.1 ^a (4.93)	4.9 ^a (5.48)	11.7 ^b (8.94)	<0.001
Holidays per year (Days)	10.3 (7.24)	8.1 ^a (6.34)	10.1 ^a (5.78)	12.3 ^{ab} (7.27)	15.3 ^c (8.83)	<0.001
Herd Size	125.6 (88.88)	87.6 ^a (39.06)	114.2 ^b (67.94)	158.7 ^c (85.35)	310.7 ^d (159.11)	<0.001
Stocking Rate Overall (LU/ha)	2.3 (0.52)	2.3 (0.53)	2.3 (0.57)	2.3 (0.48)	2.5 (0.26)	>0.05
Stocking Rate Milking Platform (LU/ha)	3.0 (0.82)	2.9 (0.76)	2.9 (0.78)	3.2 (0.97)	3.1 (0.78)	>0.05
¹ NFE = Farmers not employing any people; ² FE 1 = Farmers employing one person; ³ FE 2 = Farmers employing two people; ⁴ FE 3 = Farmers employing three or more people ⁵ SD = Standard deviation ^{a-d} Means within a row with different superscripts differ significantly (P<0.05)						

Table 1. Socio-economic profile of survey respondents.

Recruitment and payment practices

The recruitment and payment practices implemented by survey respondents are presented in Table 2. Of the farmers who employed staff, 2% of did not utilise any recruitment practices. The most common recruitment practice used by respondents was 'word of mouth' (41.9%). Farmers in FE 3 used 'word of mouth', online methods and employee recommendations to recruit employees more than FE 1 (P<0.05). A small percentage of farmers used an employment agency (3.4%) or their farm advisor (2.5%) to recruit workers. In total, 14.8% of respondents employed workers through the FRS (the FRS is a farmer owned co-operative that provides services to farmers). Of the respondents, 39.4% used family members to recruit workers. The most common payment practices used by respondents were automatic direct debit / standing order (45.8%), cheque (39.9%) and cash (11.8%). More farmers in FE 3 used automatic debit compared with FE 1 and FE 2 (P<0.05), with no significant difference between FE 1 and FE 2.

Legal practices

Presented in Table 3 are the legal HRM practices implemented by survey respondents. Of the farmers employing staff, 11.8% of respondents reported that they issued employment contracts to employees. More farmers in FE 3 issued employment contracts compared with FE 1 and FE 2 (P<0.05). In terms of payslips issued to the employees, 18.7% of farmers after each payment and retained a copy of each payslip. Farmers in FE 3 issued and retained payslips more than FE 1 and FE 2 (P<0.05). Of the respondents who employed staff, 9.4% reported that they had an employee details form with a significant difference between FE 3 and FE 1. Overall, 14.3% of respondents had a position/job descriptions in place for employees. Fewer farmers in FE 1 had a position/job description for employees compared with FE 2 and FE 3 (P<0.001). Overall, 26.6% of respondents recorded the hours worked by employees.

Human Resource Management practices

Presented in Table 4 are the HRM practices implemented by respondents. More farmers in FE 3 had an induction programme for new employees compared with FE 1 and FE 2 (P<0.001). Overall, 10.8% of respondents with employees reported that they had a probationary period for new hires. Fewer

farmers in FE 1 had a probationary period for new hires compared with FE 2 and FE 3 ($P < 0.001$). A higher percentage of farmers in FE 3 implemented rosters and regular staff meetings than FE 1 and FE 2 ($P < 0.001$). Overall, 1.7% of respondents provided training plans to employees. More farmers in FE 3 provided training plans and career plans to employees than FE 1, with FE 2 intermediate ($P < 0.01$). The most common HRM practices implemented by respondents were payment of overtime to workers (27.1%) and rosters (27.1%).

	FE 1 ¹ (n=117)	FE 2 ² (n=53)	FE 3 ³ (n=33)	p-value
	Responses (n) (Percentage)	Responses (n) (Percentage)	Responses (n) (Percentage)	
Recruitment practices				
Word of mouth	40 ^a (34.2)	23 ^{ab} (43.4)	22 ^b (66.7)	<0.05
Local newspaper	5 (4.3)	5 (9.4)	4 (12.1)	>0.05
Local advertisement	5 (4.3)	2 (3.8)	3 (9.1)	>0.05
Online	6 ^a (5.1)	6 ^{ab} (11.3)	6 ^b (18.2)	<0.05
Employment agency	3 (2.6)	2 (3.8)	2 (6.1)	>0.05
Farm Relief Service	15 (12.8)	10 (18.9)	5 (15.2)	>0.05
Family member	47 (40.2)	21 (39.6)	12 (36.4)	>0.05
Farm adviser	2 (1.7)	2 (3.8)	1 (3.0)	>0.05
Employee recommendation	3 ^a (2.6)	4 ^{ab} (7.5)	5 ^b (15.2)	<0.05
Payment practices				
Automatic direct debit / standing order	44 ^a (37.6)	24 ^a (45.3)	25 ^b (75.8)	<0.05
Cheque	47 (40.2)	24 (45.3)	12 (36.4)	>0.05
Cash	14 (12.0)	7 (13.2)	3 (9.1)	>0.05
¹ FE 1 = Farmers employing one person; ² FE 2 = Farmers employing two people; ³ FE 3 = Farmers employing three or more people ^{ab} Percentages within a row with different superscripts differ significantly ($P < 0.05$)				

Table 2. Recruitment and payment practices on Irish dairy farms of survey respondents.

	FE 1 ¹ (n=117)	FE 2 ² (n=53)	FE 3 ³ (n=33)	p-value
	Responses (n) (Percentage)	Responses (n) (Percentage)	Responses (n) (Percentage)	
Position/job descriptions	7 ^a (6.0)	12 ^b (22.6)	10 ^b (30.3)	<0.001
Employment contracts	8 ^a (6.8)	7 ^a (13.2)	9 ^b (27.3)	<0.05
Employee details form	6 ^a (5.1)	4 ^a (7.5)	9 ^b (27.3)	<0.001
Payslip issued after each payment	13 ^a (11.1)	13 ^{ab} (24.5)	12 ^b (36.4)	<0.05
Payslip retained after each payment	13 ^a (11.1)	13 ^{ab} (24.5)	12 ^b (36.4)	<0.05
Employees time recorded	24 (20.5)	16 (30.2)	14 (42.4)	>0.05
¹ FE 1 = Farmers employing one person; ² FE 2 = Farmers employing two people; ³ FE 3 = Farmers employing three or more people ^{ab} Percentages within a row with different superscripts differ significantly ($P < 0.05$)				

Table 3. Legal Human Resource Management practices implemented by the survey respondents.

	FE 1 ¹ (n=117)	FE 2 ² (n=53)	FE 3 ³ (n=33)	p-value
	Responses (n) (Percentage)	Responses (n) (Percentage)	Responses (n) (Percentage)	
An induction program for new employees	8 ^a (6.8)	5 ^a (9.4)	10 ^b (30.3)	<0.001
Probationary period for new employees	4 ^a (3.4)	8 ^b (15.1)	10 ^b (30.3)	<0.001
Performance review/ appraisal	6 (5.1)	5 (9.4)	5 (15.2)	>0.05
Rosters	21 ^a (17.9)	15 ^a (28.3)	18 ^b (54.5)	<0.001
Regular staff meetings	22 ^a (18.8)	13 ^a (24.5)	18 ^b (54.5)	<0.001
Training plans	2 ^a (1.7)	3 ^{ab} (5.7)	5 ^b (15.2)	<0.01
Career plans	1 ^a (0.9)	3 ^{ab} (5.7)	3 ^b (9.1)	<0.05
Paid sick provided to employees	23 (19.7)	12 (22.6)	12 (36.4)	>0.05
Overtime paid to employees	29 (24.8)	17 (32.1)	9 (27.3)	>0.05
¹ FE 1 = Farmers employing one person; ² FE 2 = Farmers employing two people; ³ FE 3 = Farmers employing three or more people ^{ab} Percentages within a row with different superscripts differ significantly (P<0.05)				

Table 4. Human Resource Management practices on Irish dairy farms implemented by the survey respondents.

Training practices

The training practices of respondents are presented in Table 5. In total, 49.8% of farmers indicated they had attended informal training and events while 32.5% attended formal training and events during 2018. A higher percentage of farmers in FE 3 paid for staff training or further education compared with FE 1 and FE 2 (P<0.05). Overall, 14.8% of respondents attended free education and training events.

	FE 1 ¹ (n=117)	FE 2 ² (n=53)	FE 3 ³ (n=33)	<i>p-value</i>
	Responses (n) (Percentage)	Responses (n) (Percentage)	Responses (n) (Percentage)	
Training practices				
My staff or I have attended formal industry education courses	29 (24.8)	22 (41.5)	15 (45.5)	>0.05
My staff or I have attended informal training & events	59 (50.4)	23 (43.4)	19 (57.6)	>0.05
I pay for my staff to attend training or further education	19 ^a (16.2)	14 ^a (26.4)	19 ^b (57.6)	<0.001
I do not pay for my staff to attend training or further education	60 (51.3)	30 (56.6)	10 (30.3)	>0.05
All training and education is free	23 (19.7)	5 (9.4)	2 (6.1)	>0.05
Mixture of paid and unpaid training	0 (0.0)	0 (0.0)	1 (3.0)	>0.05
¹ FE 1 = Farmers employing one person; ² FE 2 = Farmers employing two people; ³ FE 3 = Farmers employing three or more people ^{ab} Percentages within a row with different superscripts differ significantly (P<0.05)				

Table 5. Training practices on Irish dairy farms of survey respondents.

Discussion

Since the abolition of EU milk quotas in 2015, many farmers have capitalised on the opportunity to expand their farm business. This has created a greater demand for employees resulting in farmers hiring more part and full-time non-family labour. Recruiting and managing people are a challenge for dairy farmers both in Ireland and internationally (Bewley *et al.*, 2001; Eastwood *et al.*, 2020; Kelly *et al.*, 2017). Good HRM is essential for the attraction and retention of employees in the industry but it is an under-researched topic in dairy farming. This paper focused on the management of employees on Irish dairy farms by establishing the HRM practices implemented by farmers.

As the number of workers on the farm increased, farmers were able to take significantly more holidays and worked fewer weekends throughout the year. This suggests that farmers who have more people working on their farms find it easier to take a break from farming. Traditionally, farmers have struggled to get sufficient time away from the farm, or engage in non-farming activities which can lead to overwork, increased stress, fatigue and depression (Eastwood *et al.*, 2020). A good balance between work and leisure time can result in increased job satisfaction (Fang *et al.*, 2019).

While not all farmers require formalised HRM practices those employing non-family members are required to have certain HR practices formalised to comply with employment law. In the present study, 65% of farmers employing people so good HRM practices are essential to continue with the ongoing and future development of the dairy industry. The HRM practices pattern of FE 1 (more informal and less practices adopted) and FE 3 (less informal and diversified practices adopted) are distinct while FE 2 represented an intermediary position between FE 1 and FE 3. The implementation of a variety of HRM practices has a positive impact on employee's job satisfaction and commitment to the business Meyer and Allen, (1997). Further research is required to identify if farmers in FE 1 are negatively impacting on employees job satisfaction by the limited number of formal HRM practices in place.

Farmers have traditionally experienced issues regarding employee recruitment and management (Eastwood *et al.*, 2020). In smaller businesses, the close relationship between the employer and their employees can result in work practices being implied rather than formalised (Armstrong and Taylor, 2020). This could explain the low compliance with the employment law in this study as the average herd size was 126 cows so the farms surveyed could be considered as small/ medium compared with other pasture-based countries where larger herd sizes are more common. Although more farmers in FE 3 had employee contracts in place compared with Farmers in FE 1 and FE 2, who do not issue employment contracts and adhere to the legal requirements of being an employer expose themselves to prosecution. Compliance is an issue for all agricultural businesses as 43% of agricultural employers in Ireland breached employment law regulations in 2018 (WRC, 2018). For dairy farmers to become an attractive employer they must at a minimum comply with employment law. The perception of dairying as an undesirable career is already an issue that farm employers must contend with due to long working hours and poor remuneration (Eastwood *et al.*, 2020).

According to Bitsch *et al.* (2006), many farmers try to recruit employees without conducting prior planning which can lead to frustration and failure. In the present study, farmers used several recruitment methods, with 'word of mouth' the most common and this is consistent with previous research (Bitsch *et al.*, 2006). Farmers in FE 3 used 'word of mouth', online and employee recommendations to recruit employees significantly more than farmers with only one employee (FE 1). By using a variety of recruitment methods, farmers are ensuring their jobs are advertised to wide network of people. In the future dairy farmers will require more non-traditional employees in the future, such as urban dwellers

looking for a career change (Eastwood *et al.*, 2020), therefore farmers in FE 1 may need to use a greater variety of recruitment practices the use to reach a wider pool of potential employees.

Payment of wages by cheque was the most common payment method while automatic direct debit / standing order was more commonly used by farmers in FE 3. Farmers who automate employee payments can reduce errors. Farmers have struggled with the payment of benefits to employees due to the relative complexity of the policies and rules surrounding the practice (Bitsch *et al.*, 2006).

Many small to medium sized businesses that are operating in an expanding industry implement HRM practices to help assist them with meeting their obligations as an employer (Kotey and Slade, 2005). Farmers in FE 3 had an induction programme in place for new employees compared with FE 1 and FE 2. However, previous research suggests that farm size is not a determining factor in the quality of HRM implemented by the farm employer (Stup *et al.*, 2006). Developing employees' capabilities through continuous training has been shown to increase profits for the employer and improve the technical skills of the employee (Stup *et al.*, 2006). According to Davis (2015), a lack of career development opportunities is a major cause of employee dissatisfaction and turnover. Farmers and in particular those with one or two employees need to continue developing the careers of their employees to aid the retention of workers.

Farmers are now challenged with managing not only their farm but also employees external to the farm family (Deming *et al.*, 2020). The results of this study suggest that the HRM practices are mainly informal practices on Irish dairy farms. Although many farmers are likely to be relatively new to employment and formalisation of HRM practices, it is beneficial to the farm business (Wright *et al.*, 1994, Kotey and Slade, 2005). Therefore, development of supports such as training of farmers in their new role as employers may be necessary. Training programmes need be developed by research and educational institutions to be informative and adaptable to meet the individual needs of each farm. The results of the present study showed that employers are generally well educated and half of respondents or their staff attended informal training in 2018. A more informal approach to HRM training might be more appropriate initially as farmers prefer to learn in a group environment and share knowledge already used by their peers (Šūmane *et al.*, 2018). Therefore, HRM topics could be incorporated to existing group meetings such as discussion group meetings rather than a formalised HRM course.

Conclusions

This study established the HRM practices used on Irish dairy farms and profiled the farm employers who are implementing these practices. To sustain expansion within the Irish dairying and to attract new people into the industry, excellent farmers with good HRM practices are required. Irish dairy farmers with three or more employees were significantly better at implementing HRM practices than farmers with a smaller number of employees but there is still scope for improvement for all farmers. Given the competitive labour market and the high demand for staff, farmers should focus on adopting HRM practices that will make their farms a more attractive place to work which includes greater compliance with employment law, training opportunities and employee career development. The requirement for good HRM practices highlighted in this research could also be applied to other industries that have experienced rapid expansion similar to dairy farming. Further research is required on the long term implications of HRM strategies implemented by farmers and their impact on the employer and employee working relationship.

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