Revista Brasileira de Gestão e Desenvolvimento Regional
G&DR. V. 16, N. 1, P. 87-99, jan-abr/2020. Taubaté, SP, Brasil.
ISSN: 1809-239X

Received: 10/09/2018
Accepted: 09/12/2019

WHAT DOES THE DAIRY ACTIVITY IN FAMILY ESTABLISHMENTS DESISTIMATE?

O QUE DESESTIMULA A ATIVIDADE LEITEIRA EM ESTABELECIMENTOS FAMILIARES?

Raquel Breitenbach[1]
Graziela Corazza[2]
Janaína Balk Brandão[3]

Abstract

This research had as objective to describe the factors that motivate the family farmers of Alto Alegre / RS to remain or to give up of the milk activity. In order to carry out this diagnosis, semi-structured interviews were applied to seventeen family establishments in the District of Santa Lucía - Alto Alegre (including all remaining farmers who left the activity in the locality), of whom ten are active and seven have given up their milk activity. It can be concluded that the lack of successor was the main aspect found for the exit or demotivation of rural producers of the milk activity; while the monthly income provided by the activity was the main reason for staying in it.

Keywords: rural succession, monthly income, permanence in rural areas.

Resumo

A presente pesquisa teve como objetivo descrever os fatores que motivam os agricultores familiares de Alto Alegre/RS a permanecer ou desistir da atividade leiteira. Para realização deste diagnóstico aplicou-se entrevistas semiestruturadas para dezessete estabelecimentos familiares no Distrito de Santa Lúcia – Alto Alegre, contemplando todos os agricultores que permanecem e que saíram da atividade na localidade. Destes agricultores entrevistados, dez estão ativos e sete desistiram da atividade leiteira. Como resultados, destaca-se que a falta de sucessor foi o principal aspecto encontrado para a saída de produtores rurais da atividade leiteira; enquanto que a renda mensal propiciada pela atividade foi o motivo principal para permanência destes. Conclui-se que este cenário ressalta a importância da sucessão familiar rural para a dinâmica do campo, seja econômica, social ou até mesmo de paisagem. Ainda, que os agricultores desejam ter mais autonomia nas decisões de preços dos produtos por eles produzidos.

Palavras-chave: sucessão rural, renda mensal, permanência no meio rural.

[1] PhD in Rural Extension (UFSM). Professor at the Federal Institute of Education, Science and Technology of Rio Grande do Sul - Campus Sertão, Sertão - RS, Brazil. Email: raquel.breitenbach@sertao.ifrs.edu.br
[2] Agronomist by the Federal Institute of Education, Science and Technology of Rio Grande do Sul Campus Sertão, Sertão - RS, Brazil. Email: raquel.breitenbach@sertao.ifrs.edu.br
[3] PhD in Rural Extension (UFSM). Professor at the Federal University of Santa Maria and the Open University of Brazil, Santa Maria-RS, Brazil. Email: janainabalkbrandao@hotmail.com

Introduction

In Brazil, the number of family establishments represents 84.4% of all agricultural establishments, occupying only 25% of the total area intended for agriculture (IBGE, 2006). This represents 85.7% of the total number of establishments in the state of Rio Grande do Sul, occupying 30.5% of the state's agricultural area (IBGE, 2006).

However, Family Agriculture (FA) was not considered a socially and economically relevant category for a long time (MOTA; SCHIMITZ, 2006). It was recognized and gained participation in the agrarian policies agenda in the 1990s and its visibility attributed with the implementation of PRONAF[4] in 1996 (SILVA; BREITENBACH, 2013).

Even though FA has gained recognition, cyclical and political changes have been taking place in Brazil over the past four years, such as the reduction of public policies for the direct purchase of food from FA (e.g., the National School Meals Program and the National Food Program, Food Acquisition, Reduction of Bank Financing, etc.) In a regular crisis scenario, small and medium-sized agricultural production, especially in FA, the market retracts and access to credit diminishes, which are necessary for the production (FREIRA; de SOUZA; BIRTH, 2017). The impact of losses on the productive course and the drop in the values of traded products are determining factors for the weakening of farmers in general, especially small farmers (FREIRA; DE SOUZA; NASCIMENTO, 2017).

It is essential to verify the maintenance and insertion of FA productive activities in the markets, the difficulties encountered in the production and management of these establishments, as well as issues related to their social reproduction, considering young people's difficulty to stay in rural areas. FA economic dynamization, based on the diversification of rural activities and pluriactivity, is considered an asset for the formation of new rural generations (INSTITUTO SOUZA CRUZ, 2011).

Dairy cattle raising is a productive activity considered strategic for FA, especially based on the biweekly or monthly frequency of the income flow (DALCIN; TROIAN; OLIVEIRA, 2009). These factors are, in turn, stimulating the development of the activity in comparison with grains, in which the required territorial area is larger to guarantee economic viability, as well as its annual revenues. Moreover, it can be exploited in small areas of land, has low commercial risk, cash flow is attractive, being an interesting activity for occupation and source of income to rural producers (CARVALHO, 2007).

Dairy production has a strategic role in development, being a milestone in capitalized and productive agriculture (NETO; BASSO, 2005). Dairy cattle is a big part of Rio Grande do Sul's FA economy, history and social interactions (SILVA et al., 2014; TRICHES, 2011).

According to data from IBGE (2014) the South region stands out in the national dairy production. In the first quarter of 2018, the region's share was 36.4% of national milk production, totaling 2,187,268 thousand liters of raw milk purchased. The State of Rio Grande do Sul (RS) participated with 37.6% of representativeness in dairy production of the Southern region and 13.7% in the national production, which corresponds to 822.592 thousand liters in this period, placing the state behind a single other state, Minas Gerais, which obtained 25.4% of the national milk production (IBGE, 2018).

However, one aspect of dairy farming is the high cost of entering and leaving the farm, as specific structures are required, such as processing, equipment and high investment in animals (CAMILOTTO, 2011). Short-term incomes, applying technology and lasting investing could make dairy activity a condition for staying in the countryside, especially for young people, who are attracted to modern activities.

Aiming to contribute with empirical data for the analysis of FA in Rio Grande do Sul, this research will identify motivational factors that influence farmers' decision-making to stay or give up dairy cattle in the community of Santa Lúcia, Alto Alegre/RS. Specifically, the technical, social and economic characteristics were researched, and the productive directions of establishments that gave up the activity were mapped.

Theoretical support: typologies and frameworks

[4] Portuguese acronum for *Programa Nacional de Fortalecimento da AF*, or National Strengthening Program.

According to Law 11.326, of June 24, 2006, FA is understood as the farming operations carried out in rural areas, with land ownership of less than four fiscal modules, which uses mostly family members as the labor force, and the family's income are primarily derived from these activities. Usually, joint family members share business ownership (BRASIL, 2006).

In Brazil, FA has historically been excluded from the adopted agricultural development model, as it has neither benefited nor prioritized family property, generating imbalances on ecosystems (MALUF et al., 1996). In contrast, FA presents itself as an alternative for a less exclusionary and more environmentally balanced development (DOS SANTOS & MITJA, 2012).

The concept of territorial development, in this rural case, is not simple to be delimited, since different authors discuss it. Most theorists agree on some aspects that should be considered when talking about rural development, namely: economic, social, cultural and environmental factors (KAGEYAMA, 2004).

Therefore, a development project for FA should consider regional specificities and adapt crops with higher production potential, especially since most of the world's agricultural production comes from family farms (DOS SANTOS & MITJA, 2012).

Therefore, the productive and income-generating specificities that are strongly present in FA are economically and socially relevant, and motivate public policies (OLIVEIRA & RIBEIRO, 2002). These FA characteristics make the sector flexible and adaptable in different production processes, such as the introduction of agricultural modernization in some agroindustrial chains (KLAUCK, 2009).

Specifically in the milk supply chain, for a long time dairy farmers considered the activity as a secondary and supplementary source of income for the family, which did not justify any technological investment, such as the mechanization of milking, the improvement of milk, breeding stock, etc. (Schneider, 1995). Milk production as a "complementary activity" also helped explain the difficulties of modernization that firms and technicians encountered with producers (SCHNEIDER, 1995). The link between agroindustries was progressively and rapidly choosing to link only with producers capable of specializing in the activity and with scale economies, which exceeded the limits and posed challenges to family production (WILKINSON, 1999).

Furthermore, it is important to state there is a diverse sector in FA in Brazil. A way to better understand the social and economic organization of dairy producing establishments is by defining some typologies based on economic criteria, as suggested by Carvalho (2007) and Silvestro et al. (2001). Thus, three distinct categories are presented, namely: capitalized, decapitalized and, transition family farmers:

a) *Capitalized* establishments are characterized by an agricultural activity that has enabled the reproduction of the family with investment and saving, having income above three minimum wages per month per unit of employed labor.
b) Establishments *in transition* are farms that make their living from agriculture with production, savings or investments, with income between one and three minimum wages per employed person.
c) Finally, *decapitalized* are establishments that have neither invested nor saved and have an income of less than one minimum wage per month per employed person.

As the technological level is closely related to economic development and marketability (especially because collecting companies require a minimum scale), it is also necessary to classify establishments by production systems. Therefore, we take on the proposal of Martins et al. (2006) which divides the establishments into three spheres according to the quantity and availability of feed provided to the animals, milk infrastructure, technical assistance and the type of milking performed: a) specialized; b) semi-specialized; c) not specialized systems.

Methodology

This research is qualitative and uses case studies as a method. A semi-structured interview was used for field data collection, which combined closed and open questions. The informant had the possibility to discuss the proposed theme through a script, setting a context similar to an informal conversation (BONI; QUARESMA, 2005). Qualitative research is one that does not translate into numbers; it aims to ascertain the reality in relation to the object of study, and can obtain various interpretations from inductive analysis (RAMOS et al., 2003). Case studies, in turn, are characterized for researching a unit or part of the whole, revealing its importance as a research instrument, presenting its origins, meanings and its outline as a research methodology (VENTURA, 2007).

The study was divided into phases as a way to organize it methodologically:

a) Phase 1: Survey of the number of establishments dedicated (now or previously and migrated to other productive activities) dairy production in the District of Santa Lucia, Alto Alegre. At this phase, the objective was also to collect data from the Brazilian Institute of Geography and Statistics (IBGE) for the municipal activity of dairy cattle;
b) Phase 2: Bibliographic research intended to theoretically support and assist in the elaboration of the interview, in the field research and analysis of results;
c) Phase 3: Survey of secondary data and bibliographic research related to FA, i.e., importance of milk for this sector; sustainability and social reproduction; milk production and food safety; rural succession and dairy production;
d) Phase 4: Field research with family farmers in the community of Santa Lucia, through a semi-structured interview containing guiding questions that sought information from the establishments with social, economic and technical criteria (Table 1); different routes were used for active and inactive establishments;
e) Phase 5: Tabulation and comparative analysis of data collected in the empirical research;
f) Phase 6: Diagrams and conclusions through the analyses performed in order to meet the proposed objectives.

Frame 1- Guiding criteria for collecting and analyzing empirical data.

Classification	Criteria used for definition	Source
Social criteria used for analysis of social reproduction (succession)	a) Number of family members and how many reside in the establishment; b) Level of involvement in the activity (number of hours worked); c) Number of years developing the activity; d) Possibility of a successor child to continue the activity; e) Motivations for the successor to continue or leave the activity; f) Difficulties faced by his family in dairy farming; g) Future outlook on the activity and other forms of income.	Adapted from Abramovay (1998) and Breitenbach and Corazza (2017).
Technological criteria used to define production systems	a) Quantity and availability of feed provided to animals; (b) infrastructure for milk; c) Receipt of technical assistance; d) Type of milking performed.	Adapted from Martins et al. (2006).
Economic criteria used to define the economic category of establishments	a) Realization of investment and savings; b) Aggregate value of the minimum wage per month per unit of employed labor.	Adapted from Carvalho (2007) and Silvestro et al. (2001)

Source: Prepared by the authors.

The study was carried out in the district of Santa Lúcia, located in the city of Alto Alegre, Rio Grande do Sul. The city of 1,848 inhabitants is essentially dependent on agricultural activities. With a total of 439 agricultural establishments, the municipality has 218 milk-producing units, of which 189 traded the product *in natura*, according to the 2006 Agricultural Census (IBGE, 2006). According to data from the Ministry of Agrarian Development (MDA) (2015), Alto Alegre has a total of 368 establishments with updated registration in the Declaration of Aponaf aptitude to Pronaf (DAP) system, considered FA.

From 2000 to 2010, the population was significantly reduced, as 313 inhabitants left, which represented a 16.9% decrease in the total municipal population, and a 28.3% decrease regarding the municipality's rural population on that decade (IBGE, 2010). This fact is even more relevant when taking the urban population reduction: 24 inhabitants represented a 1.29% of the total municipal population (IBGE, 2000; 2010; FEE, 2010). This leads to questions about the current condition of permanence and social reproduction of FA in this municipality.

17 interviews were conducted, ten with families linked to dairy cattle that sell fresh milk, and seven with families who abandoned the trade from 1998 to 2017, and who live in the city of Santa Lúcia. The interviews took place in the second semester of 2017.

Results and discussion

Profile of rural establishments in Saint Lucia, Alto Alegre

In the studied location, 12 families abandoned the dairy market over a period of 18 years (1999-2017). Five of these families sold their properties and migrated to urban areas, while seven remained in the country. The study covered 17 families, 10 of which still work with dairy cattle, and 7 that work in agriculture but not in dairy production. First, an overview of the ten establishments that are still active in milk production and sale in Santa Lucia is provided. Aspects about family components, area for dairy production, technical, and commercial aspects are addressed.

Rural establishments that persisted in dairy cattle in Alto Alegre / RS

Data referring to the ten productive units that chose to persist in the dairy cattle activity in Alto Alegre/RS highlight their profile, economic characteristics, as well as the motivations for permanence and consequent difficulties that may compromise their medium and long term development.

Regarding family composition, the families analyzed are composed of individuals residing in the establishments, but while some participate directly in dairy cattle, others do not (Table 1). Overall, other activities are being carried out on their premises, which cause a division of responsibilities among members of the family labor force.

Table 1- Profile of establishments that remain in the dairy cattle activity in Santa Lúcia, Alto Alegre.

Establishments	Family composition			Animals (heads)	Productivity (liter/cow/day)	Area (hectares)	
	Total	Reside in the establishment	Occupied in dairy cattle			Total	For dairy cattle
P1a	5	2	2	8	12,5	15	5
P2a	5	3	2	14	16,7	17	10
P3a	4	3	2	13	16,7	20	7
P4a	3	3	2	20	31,7	8	8
P5a	6	4	3	18	14,8	50	8
P6a	5	3	2	11	21,2	11,8	6
P7a	4	3	3	11	15,1	18	4
P8a	4	3	3	25	30,7	35,6	14
P9a	5	2	2	8	16,7	70	6
P10a	5	5	2	15	7,8	40	19

Source: Prepared by the authors based on research data.

For Alto Alegre, the fiscal module has an area equivalent to 18 hectares, and by law, family establishments in the municipality should not exceed four fiscal modules (INCRA, 2013; BRAZIL, 2006), that is, 72 hectares of area. Table 1 shows the map, displaying that all establishments have a total area of less than four fiscal modules and can be considered FA. The average area occupied by the dairy activity was 41.16% of the total establishment, and only one of them destined the total area to this activity. In that case, the production unit has the smallest arable area (8 ha) among the rest, which explains its consolidated devotion. The variation of the area destined specifically for dairy cattle is 4ha to 19ha for the smallest and largest area, respectively. Areas not intended for dairy cattle are occupied for grain production, especially soybeans, corn and wheat.

Table 1 also shows the number of animals and productivity. The overall average was 18 liters/cow/day, above the state average of 12.6 liters per cow/day (RIES, 2017), but below the production potential they could reach. The units with the highest productivity per animal are the same as those most specialized and technified. Thus, the establishment that invests the most in technification, handling and most productive techniques is the one with the highest productivity in liters/cow/day. On the other hand, the one with the lowest productivity per animal is decapitalized (CARVALHO, 2007; SILVESTRO et al., 2001).

In the district studied, all the agricultural establishments that continue in dairy production are characterized by raising cattle with pasture formation. Most use raw materials produced and

processed in the unit itself, in order to compose mixtures with feed and external supplements, in addition to the manufacture of roughage, especially corn or barley silage. All units studied seek diversification of activities, especially with crop and livestock integration in summer and winter, respectively. During winter, they invest in pasture, and during summer in grain production, especially soy and corn.

Therefore, productivity could be improved from a pasture system that optimizes the available area, such as the investment in the rotated paddock system, coupled with pasture fertilization. This system allows a stocking rate of six dairy cattle per ha (BIGHETTI, 2018). None of the units studied had a stocking rate/ha greater than three.

Rural establishments that dropped out of dairy cattle in Alto Alegre / RS

In this section, we will address the reality of the seven establishments that have stopped working in dairy in Saint Lucia, taking into account the time when they left the activity, the area previously devoted to it, as well as the main factors that interfered and led to its abandonment, especially the difficulties they faced while still developing the activity.

Table 2 shows the family nucleus, which varies from 4 to 7 members. Some of them have already migrated to urban areas, as can be observed by comparing columns 2 and 3. Most families have at least one child living in the establishment. However, research has shown that they'd rather work in other agricultural trades or even they might even prefer a day job in the city. This indicates a loss of interest from young people towards the estate (PANNO; MACHADO, 2014).

Table 2 - Profile of establishments that have given up on dairy cattle activity in Santa Lúcia, Alto Alegre.

Establishments	Family composition		Time left for dairy activity (years)	Area (hectares)	
	Total	Reside in the establishment		Total (ha)	Área utilizada na bov. de leite (ha)
P1b	4	3	13	20	20
P2b	4	2	6	12	3
P3b	6	3	2	50	6
P4b	5	3	18	12	4
P5b	5	2	12	40	5
P6b	7	4	3	40	7
P7b	5	3	2	29,4	5

Source: Prepared by the authors based on research data.

Table 2 also shows how many years ago the units analyzed stopped exercising dairy activity. Since 1998, farmers have started to abandon dairy farming, migrating to other trades, mainly grain. A single establishment invested in viticulture and sale of fresh grapes.

It was found that the farmers who abandoned the dairy industry were not specialized. The milk supply chain has required farmers to specialize in production and increase production scale so that the raw material is delivered to the standards that consumers and processing companies demand. As a result, this requires high investments that farmers are not always willing to make (BREITENBACH; SOUZA, 2015).

A corroborating factor is shown in Table 2 and concerns the small areas intended for the dairy activity compared to total areas. Since dairy production was not the main activity in the units studied, it did not receive priority investment or attention. It was found that the producers did not invest resources in infrastructure and animals; consequently they did not improve and ended up having problems with the scale, which resulted in low profits.

This market scenario that imposes productive demands on agriculture began to take shape in the 1990s, with institutional changes such as the Real Plan, the implementation of Mercosur and the deregulation of the market by the federal government (BREITENBACH; SOUZA, 2015). From the mid-1990s, while the price of milk is appreciated for large producers and the price of soybeans is devalued, there is a significant increase in the volume of milk traded (NETO; BASSO, 2005). This scenario did not favor family farmers, a sector that had a significant decline in production at this time, and made many small-scale operations unfeasible, and forced them out of the market, since it was impossible for them to adapt to the market scale and the legal requirements for packaging and cooling (NETO; BASSO, 2005).

One of the main challenges for FA dairy farming is the difficulty of competitiveness and low levels of production. In this sense, there is a threat of expropriation by specialized and large-scale establishments (WILKINSON, 1997).

Technical, social and economic criteria that differ in remaining and abandoning dairy farmers

Technical criteria

Martins et al.'s (2006) classification divided production systems into three spheres according to the quantity and availability of feed provided to animals, milk infrastructure, technical assistance, and the type of milking performed (Table 2).

Frame 2- Classification according to the specialization of the productive systems of milk production of Alto Alegre / RS.

Theoretical classification (Martins et al., 2006)	Classification of the establishments that continue in the activity regarding the productive system they develop
a) Specialized System	Three establishments: have invested in modern infrastructure (a structure known as herringbone) to facilitate, qualify and specialize milking animals; They have regular technical assistance, allowing greater quality control and product monitoring.
b) Semi-Specialized System	Seven establishments: Technical assistance is available only when requested, using the bucket-by-foot milking system. Of these, three properties tend to diminish inputs and investments, becoming less and less specialized, with flocks without adequate genetics and poor production. This is justified by the lack of successors for the continuity of activities, discouraging investments and specialization in the activity.
c) Non-Specialized System	None.

Source: Prepared by the authors based on research data.

Regarding the productive systems in the dairy units that gave up the activity, five establishments were semi-specialized systems, given they had technical assistance only when there was an emergency, breed-specific animals for milk production but with low investment in genetic improvement. Meanwhile, the other two establishments could be described as "unskilled systems" since they used manual milking, technical assistance only when an emergency occurred, and non-specialized animals for dairy production.

Social criteria

When farmers were asked regarding the reasons for abandoning the dairy business, the most relevant factor identified was the lack of successor, especially when paired with old age or health problems. This has also been the cause for three other family businesses to reduce their investments, as they have no one to keep it running in the future.

In order of importance, the next decisive factor is related to the fact that they had access to an extra income from retirement. Even if less important for decision-making, the following arguments were also mentioned: being a laborious activity; lack of infrastructure; lack of appreciation of the product compared to its importance (related to the low price of the product and the lower remuneration for those who maintained seasonal production); the harsh climate that they faced mainly in winter, imposing hard work.

The factors that contributed to the producers' permanence in the activity were, in order of importance, the fact of generating the monthly resource inflow; having a successor; and have adequate infrastructure for the activity (Table 3).

Frame 3- Factors that encourage or discourage farmers in Alto Alegre / RS remain in dairy cattle and difficulties faced.

Factors that motivated the exit in establishments that left the activity of dairy cattle	Factors that encourage the permanence in active establishments in the activity of dairy cattle
• Lack of a successor child; • Old age and health problems (related to lack of successor); • Other source of income (retirement); • Diário Strenuous and tiring daily work; • Baixo Low price of the product; • Menor Lower compensation for those who maintained seasonal production; • Lack of adequate infrastructure; • Rigorous climate.	• Monthly cash inflow; • Possibility of having a successor; • Have adequate infrastructure.

Source: Prepared by the authors based on research data.

Even for the group that remains in the business, some factors were considered as problematic for long-term sustainability: price fluctuations paid for production; lack of successors; low profit margin; hard work; and shortage of available labor for the activity.

As mentioned, the family progeny was the most important factor for the continuity of rural property. The existence of successors is considered definitive for the continuity of the family business, and the lack of them is the main factor for its interruption.

The permanence or not of the youth in the rural property occurs due to the social and economic conditions that increase or reduce what can be done in this environment (ZÓTIS, 2011). They see better prospects of staying in establishments with good capital, labor, infrastructure and management conditions (SPANEVELLO; LAGO, 2007; BREITENBACH; CORAZZA, 2017; TROIAN; BREITENBACH, 2018).

The reproduction of family farming in Rio Grande do Sul is conditioned by a succession process that arouses the interest of young people to stay in the countryside and continue the family business. Actions that seek to encourage young people to stay in agriculture are important (BREITENBACH; GIARETA, 2015). However, in recent decades, the difficulty of identifying and interesting possible heirs has resulted in an aging agricultural community (ABRAMOVAY, 1998).

This problem is greatest when addressing gender issues. Young women are less interested in staying in the country. As a result, masculinization in rural areas discourages young men, since they are unable to find partners with whom they can build their families (ABRAMOVAY, 1998).

Secondly, retirement appeared as a factor that contributed to the farmers leaving the activity. Milk is known to be economically important for the monthly income it provides to families. However, retirement also provides monthly income, which, together with the lack of heir and labor hardship, makes owners stop their businesses. After retirement there was a greater appreciation of the elderly from those who use to be assisted to assistants, due to the dependence of other family members on their salary. Social Security is one of the main public policies aimed at FA, contributing to the economic and social improvement of beneficiaries (BIOLCHI, 2002).

The hard work required by the dairy activity is an aggravating factor that has been encouraging farmers to give up. Dairy production is daily and constant work, typically with longer working hours than in other jobs, which makes wage labor (or other activities) more attractive and often creates a problem for the development of milk production (NETO; BASSO, 2005). If workers felt stimulated and valued in their work, difficulties could be seen as secondary factors (BREITENBACH; CORAZZA, 2017; TROIAN; BREITENBACH, 2018). That is, the appreciation of the field and the activities performed by workers comes as an attractive factor for their permanence in the rural environment (BREITENBACH; CORAZZA, 2017; TROIAN; BREITENBACH, 2018).

The problems of succession and rural exodus are correlated in Brazilian agriculture (TROIAN; BREITENBACH, 2018). The rural exodus is a reality in the region analyzed, represented especially by the producers' young children who leave for cities in search of work that provide greater recognition, remuneration, or to attend a college (Tables 1 and 2). In the units where dairy farming is no longer developed, only 10% of family members live in the establishment, and even then, the younger members might live there but work in the city.

As a consequence, there is a dismantling of milk production activity. This is because, in FA, the family owns the means of production and also takes over the work in the productive establishment. Thus, families at work are responsible for their economic and social actions (WANDERLEY, 1999). That is, the participation of family groups in the dairy market is fundamental to its success.

Economic criteria

After the distinction of the technical and social profile of the studied establishments, the economic characterization is now made (Table 4). The economic classification was performed based on all establishments.

In this economic classification between capitalized, transitioning and decapitalized, the rural establishment as a whole was considered, in a systemic way, integrating all the developed activities.

Frame 4 - Economic classification of the analyzed production units of Alto Alegre / RS.

Classification	Establishments	Characteristics
Capitalized	24,9%	Have better infrastructure on property; greater margin for expansion of investments compared to others.
In transition	41,2%	Medium level of infrastructure; without much margin for investment; Dairy activity is present in five of these properties, being the activity responsible for most of the income for them, while grain activity is a secondary source.
Decapitalized	24,9%	Low level of infrastructure and few resources for investment. Of the five units, three are abandoning dairy activity.

Source: Analysis performed by the authors based on the theoretical classification proposed by Carvalho (2007) and Silvestro et al. (2001).

Future prospects for FA working in dairy differ proportionally according to their economic categorization (CARVALHO, 2007; SILVESTRO et al., 2001). For capitalized businesses, with scale, manpower, and successors who are in or already installed at the facility, the outlook takes on an aspect of continued infrastructure investment and modernization. Even for farmers with a brief history in the trade, market fluctuations are factors that weigh negatively in the continuity of the production unit. For farmers who have no prospect of successor on the property, or who are decapitalized, that is, earn higher incomes with another less demanding labor activity, the future tends to be outside dairy cattle.

For both those who recently started the activity and those who said they had no intention to follow, the difficulty of skilled labor and the high cost of it influence decisions. Often, labor competition with other activities becomes a highly limiting factor, especially in the case of diversified production systems (NETO; BASSO, 2005).

The main motivator for the current performance of these ten units in dairy activity is the possibility of a monthly cash inflow, used to cover the main family expenses. On the other hand, when there is certainty that there is an heir who ensures business continuity, operations and farmers' attitude is positively impacted, as they are driven to invest and technify.

As for commercial issues, farmers have some companies that help market the product: King South Dairy; Saint Clara; BRF (Brasil Foods) and CCGL (Cooperativa Central Gaúcha Ltda), etc. Having several competing companies, gives dairy businesses more options if they are not satisfied with the transactions. This is a positive aspect, as markets characterized by competitive oligopsony in the dairy processing sector increase farmers' bargaining power, ensure higher prices for milk offered by rural establishments and stimulate the specialization of dairy farming. In contexts where monopsony predominates, the farmer's bargaining power is low or null, the price paid for milk is lower and farms have less incentive for modernization and specialization (BREITENBACH; SOUZA, 2015).

Conclusion

This research identified the factors that influenced farmers' decision to stay or give up dairy cattle activity in the community of Santa Lucia, Alto Alegre RS. It also researched the technical, social and economic characteristics of the establishments and mapped the productive directions of those who gave up the activity.

Two distinct groups were obtained from establishments that still remain in dairy cattle: a) motivated farmers - those who have invested in their operations, have an active successor or a great prospect of continuity; b) unmotivated - those with little interest in continuing the activity, who have made few investments and have no successor. Having an heir is a decisive factor for the future of property.

Unlike other urban businesses, FA is recognized for the farmers' bond with their property that goes beyond economics, and represents an emotional and familial link. Business and investment decisions are, thus, also most affected by these aspects. In this case study, investments and specialization of the dairy cattle activity are conditioned by the prospect of successors bringing business continuity. Properties without a sustainable scenario have either abandoned the activity or are about to. Rural succession has a significant pull in the dynamics of the rural country, whether economic, social or even geographic.

The main reasons farmers stay or leave the dairy activity in the District of Santa Lucia, Alto Alegre were: the considerable monthly cash turnover and the lack of successor. A similarity between respondents' answers was noted, as well as that properties are often at the mercy of market swings and would like to have more autonomy in controlling production costs or setting product prices.

As indicative of future studies, it is important to analyze success stories to identify the favorable facts for the maintenance and growth of dairy activity in these establishments, considering that, providing farmers with quality of life and income induces rural development. As suggestions to improve the performance of dairy farming and rural development, one of the central points verified in this study is: the succession of family business. In other words, the need for establishments plan so that young people remain (or are included) in the dairy activity, not only as labor, but as part of administrative decisions and earn financial income.

References

ABRAMOVAY, R. et al. **Youth and family farming: challenges of the new inheritance patterns.** Brasília: UNESCO, 1998.

BIGHETTI, H. **Agricultural Census: Pasture investment keeps producers in the field.** 2018. Available in: <https://canalrural.uol.com.br/noticias/censo-agropecuario/censo-agropecuario-investimento-em-pastagem-mantem-produtor-no-campo/> Access in: 18/08/2018.

BIOLCHI, M. A. Family farming and rural social security: effects of the implementation of the pension system for rural workers. **Masters dissertation.** Porto Alegre, 2002.

BONI, V.; QUARESMA, S. J. Learning to interview: how to do social science interviews. **Electronic Journal of Graduates in Political Sociology at UFSC**. Vol. 2 nº 1 (3), january-july /2005, p. 68-80.

BRASIL. **Law No. 11,326, of July 24, 2006.** Available in <http://www.planalto.gov.br/ccivil_03/_Ato2004-2006/2006/Lei/L11326.htm>. Access in: 25 january of 2016.

BREITENBACH, R., CORAZZA, G. Perspective of staying in the field: Study of rural youth from Alto Alegre, Rio Grande do Sul / Brazil. **Journal Espacios**. v. 38, n. 29, p.1-11, 2017.

BREITENBACH, R.; SOUZA, R. S. de. Market structures, governance and power in the milk supply chain in rio grande do sul. **Journal Rural & Agroindustrial Organizations**, Lavras, v. 17, n. 3, p. 336-350, 2015.

CAMILOTTO, A. H. G. Conditioning factors of the permanence in the dairy activity of Zona da Mata Mineira producers. **Dissertation** (Master in Science and Technology of Milk and Derivatives) - Federal University of Juiz de Fora, Juiz de Fora, 2011.

CARVALHO, V. R. F. Succession Of Activity On Small Rural Property From A Family And Gender Perspective. **Brazilian Society of Economics, Administration and Rural Sociology**. UEL – Londrina/PR. Jul. 2007.

DALCIN, D.; TROIAN, A.; OLIVEIRA, S. V. De. Study of the participation and permanence of young people in family farming in the locality of Dr. Pedro and Mirim in Santa Rosa-RS. In: **Proceedings**

of the Congress Brazilian Society of Economics, Administration and Rural Sociology. Porto Alegre, 2009. Available in: http://www.sober.org.br/palestra/13/431.pdf. Access in: 30/08/2015.

DOS SANTOS, A. M., MITJA, D. (2016). Family Farming and Local Development: Challenges for Economic and Ecological Sustainability in the Palmares II Community, Parauapebas, PA. **Journal Interactions** (Campo Grande), 13(1). Available in: http://www.scielo.br/pdf/inter/v13n1/a03v13n1 Access in: 21/11/2019

FEE (Economics and Statistics Foundation) - **Demography and Social Security Center**. 2010 Population Census. Available in: http://www.fee.rs.gov.br. Access in: 08/09/2015.

_____._____. **Open Data 2015**. Available in: http://www.fee.rs.gov.br. Access in: 30/03/2015.

FREIRE, P; DE SOUZA, A. D.; DO NASCIMENTO, D.C. Public policy and family farming in crisis contexts in the welfare state: A case study. **Journal UNESP Legal Studies**, v. 19, n. 30, 2017.

GOMES, C. A.; CONTERATO, M. A.. Territorial Development Projects: A Proinf Typology in the Rural Territory South Zone of Rio Grande do Sul State. GEDECON-Management and Development in Context. **Journal GEDECON-Management and Development in Context**, v. 3, n. 2, p. 18-34, 2015. Available in: http://www.revistaeletronica.unicruz.edu.br/index.php/GEDECON/article/view/601/576. Access in: 21/11/2019

IBGE. **Agricultural Census 2006.** Search by municipality in IBGE cities**.** Available in: http://cidades.ibge.gov.br/xtras/temas.php?lang=&codmun=430055&idtema=3&search=rio-grande-do-sul|alto-alegre|censo-agropecuario-2006. Access in: 20/03/2016.

_____. **Demographic Census 2000 and 2010.** Available in: http://www.ibge.gov.br/apps. Access in: 10/09/2015.

_____. **Animal Production in the 4th quarter of 2014.** Available in: http://www.ibge.gov.br/home/estatistica/indicadores/agropecuaria/producaoagropecuaria/abate-leite-couro-ovos_201404comentarios.pdf. Access in: 20/03/2016.

_____. **Quantity of raw milk purchased and processed in the month and quarter (Thousand Liters), 1st quarter 2018.** Available in: https://www.ibge.gov.br/estatisticas-novoportal/economicas/agricultura-e-pecuaria/9209-pesquisa-trimestral-do-leite.html?edicao=21443&t=destaques. Access in: 20/08/2018.

INCRA. National Institute of Colonization and Agrarian Reform. **Table with fiscal module of the municipalities**. 2013. Available in: http://www.incra.gov.br/tabela-modulo-fiscal Access in: 30/03/2016.

SOUZA CRUZ INSTITUTE. Sustainability of the field. Year 1, n. 2, Rio de Janeiro. july/2011.

KAGEYAMA, A. Rural Development: concept and an example of measure. XLIII Brazilian Society of Economics, Administration and Rural Sociology (SOBER). In: **Congress proceedings...** Cuiabá (MT), 2004.

KLAUCK, A. L. Family Farming and the Industrialization Process in Picada Café Municipality. UFRGS, Course Completion Work, **Department of Economic Sciences**. Picada Café, 2011.

MALUF, R. S.; MENEZES, F.; VALENTE, F. L. Contribution to the Theme of Food Security in Brazil. **Journal Cadernos de Debate**. Vol. IV / 1996 UNICAMP Food Studies and Research Center, páginas 66-88.

MARTINS, P. R. G.; SILVA, C. A. DA; FISCHER, V.; RIBEIRO, M. E. R.; STUMPF JÚNIOR, W.; ZANELA, M. B. Milk production and quality in the Pelotas-RS dairy basin at different months of the year. **Journal Rural Science**, Santa Maria, v. 36, n.1, p.209-214, Jan-Feb, 2006.

MDA. Ministry of Agrarian Development. DAP. **List of the Municipality of Alto Alegre / RS**. 2015. Available in: http://smap14.mda.gov.br/extratopf/. Access in: 31/03/2016.

MOTA, D. M.; SCHMITZ, H. Family Farming: Theoretical and / or Political Action Category? **Journal Culture Fragments**. V 16, Nº 11/12, p. 907 – 918. Goiânia, GO: 2006.

NETO, B. S.; BASSO, D. Milk production as a development strategy for Rio Grande do Sul. **Journal Development in Question**. Publishing company Unijuí, ano 3, n. 5, p. 53-72, Jan / Jun. 2005.

OLIVEIRA, E. R.; RIBEIRO, E. M. Rural industry, family farming and local development: the case of artisanal cachaça production in Salinas-Minas Gerais. In: **Mining Economy Seminar**, 10. 2002, **Congress proceedings...** Diamantina, MG, 2002.

PANNO, F.; MACHADO, J. A. D. Influences on Young Rural Worker Decision: Leaving or Staying in the Field. **Journal Development in Question**. Publishing company Unijuí, ano 12, n. 27, p. 264-297, Jul / Sep. 2014.

RAMOS, P.; RAMOS, M. M.; BUSNELLO, S. J. **Practical manual of research methodology:** article, review, project, CBT, monograph, dissertation and thesis. Blumenau: Acadêmica, 2003.

RIES, J. E. **Socioeconomic report of the milk production chain in Rio Grande do Sul:** 2017. Achievement: Emater/RS-Ascar. Porto Alegre RS: Emater/RS-Ascar, 2017. 64 p.

SCHNEIDER, S. Recent Transformations of Family Farming in Rio Grande do Sul: The Case of Part-Time Agriculture. **Journal FEE Tests**, Porto Alegre, (16)1:105-129, 1995.

SILVA, A. da.; BREITENBACH, R. The "family farming versus agribusiness" debate: ideological cages holding concepts**. Journal Extensão Rural,** DEAER – CCR – UFSM, vol. 20, nº 2, 2013.

SILVA, G. S., et al. Panorama of cattle breeding in Rio Grande do Sul. **Journal Acta Scientiae Veterinariae.** Pub 1215. Porto Alegre, 2014.

SILVESTRO, M. L.; ABRAMOVAY, R.; MELLO, M. A. DE; DORIGON, C.; BALDISSERA, I. T. **The Social Impasses of Hereditary Succession in Family Farming.** Florianópolis: Epagri; Brasília: Nead / Ministry of Agrarian Development, 2001.

SPANEVELLO, R. M.; LAGO, A. Agricultural cooperatives and professional succession in family farming. In: Congress of the Brazilian Society of Rural Economics and Sociology, 45. 2007, Londrina. **Congress proceedings...** Londrina, 2007. CD ROM.

TRICHES, E. Importance of dairy farming in family farming and an analysis on Ghion - Marau - RS property. **Final Paper** (Technological Graduation in Planning and Management for Rural Development), Federal University of Rio Grande do Sul, Camargo, 2011.
TROIAN, A., BREITENBACH, R. The Question of Youth in Contemporary Times: Study of Life Projects in Arroio do Tigre / RS. **Journal Development in Question**, Ijuí, v. 16, n. 44, p. 260-284, ago. 2018b.
VENTURA, M. M. The Case Study as a Research Modality. **Journal SOCERJ**. 20(5):383-386. 2007.

WANDERLEY, M. de N. B. Historical roots of the Brazilian peasantry. In: TEDESCO, João Carlos (org). **Family farming:** realities and perspectives. 2 ed. Passo Fundo: EDIUPF, 1999.

WILKINSON, J. Productive Chains For Family Farming. **Journal Rural and Agroindustrial Organizations.** V.1 – N. 1 – Jan / Jun – 1999.

_____. Mercosur and family production: theoretical approaches and alternative strategies. **Journal Society and Agriculture Studies**, Rio de Janeiro, n. 8, p. 25-50, April of 1997.

ZÓTIS, T. S. Causes and consequences of youth dropout from the rural community of. State, Camargo - RS. 2011. **Final course work** (Technologist in Planning and Management for Distance Rural Development). Federal University of Rio Grande do Sul, Porto Alegre, 2011.