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Operational feasibility of Implementation and Analysis of return on investment: A Comparative study between Peach and Grape Crop, applied in a family rural Property in Campestre da Serra - Rio Grande do Sul.

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***Keywords*— Investment, Feasibility, Analysis, Return.**

***Abstract*—** *This study aims to analyze the operational viability and return on investment of two permanent crops, grape variety rosated niágara and peach variety fascination, and compare them to see the return to the rural producer in a period of 10 years. The methodology used was a case study, a quantitative research was used for analysis. Data collection was performed at the property through interviews, based on the amounts obtained from companies in the region for the allocation of initial investments and operating costs. Thus, financial viability indicators were used, such as Net Present Value, Simple Payback (time needed to recover the cost of investment) and the Internal Rate of Return to analyze which of the two investments would be more viable to the producer. After checking the indicators, the peach orchard emerged, obtaining better results. Given these indicators, it is concluded that the investment that will bring more return to the producer will be the implementation of the peach orchard, because it is the investment that will pay faster and will enable greater return.*

I. INTRODUCTION

In recent years, agriculture has had an expressive growth in the technological area. This has greatly helped the small producer, reducing the damage and losses caused by aspects that the farmer can not contain, such as the climate (a lot of rain, drought, windstorms, hail),marketprice fluctuations, prices of the insum, among others. These risks can be reduced thanks to the aid of technology, such as more accurate and fast equipment, orchard cover, irrigation, agricultural insums, among riogrande do Suldive otherinnovations.

According to Matos, Machado and Lopes (2020, p. 6) "Fruit growing is to be seen as a promising business, so all phases that relate economic, ecological and technical issues, become fundamental before the implementation of the orchard, because usually the costs are high and the markets are demanding in quality and very competitive".

The Region of Serra Gaúcha, Rio Grande do Sul, is well known for grape cultivation. According to IBGE data (2017) in the city of Campestre da Serra 341 properties have vines, among the 341 properties, 8 properties produce table grapes and 333 properties produce grape intended for wine or juice production, these produce approximately a total of 15,133 tons per year.

In addition to the cultivation of vines, Campestre da Serra is also well known for the production of peaches, which according to IBGE (2017) 88 properties

grow peach trees, and the total sum of these properties total an area of 152 hectares, producing a total of 1,986 tons per year.

With the proposed study, we seek to analyze, the investments, costs, expenses and revenues that a rural producer has with the implementation of 1 hectare of orchard of peach trees fascination variety comparing with the implnesting 1 hectare of vine variety niágara rosada and what the result generated financial ly of the same crops.

The study will becarried out in a small rural property, located in Campestre da Serra - Rio Grande do Sul, focusing ondemonstrating which crop will be more profitable in the period of 10 years, after planting. To carry out the study, cost accounting techniques will be applied in the rural property, in order to assist the smallproducer.

The analysis of the performance of the study will be done through the use of cost accounting in the fruit sector, seeking to identify all the costs incurred in the implementation and production and analyze the profitofthe crops. Net present value (LPV), internal rateof return(IRR),simple payback and cashflow willbe calculated.

The research will be carried out in order to demonstrate information to the rural producer, information regarding costs, expenses, revenues and net income that it has obtained over the years, assisting in the decision of future investments.

The theme proposed in the study brings the comparison of two different cultures, in order to assist small farmers in decision making. Based on this arises the following problem: What is the economic result generated by the sale of grape and peach on a rural property of Campestre da Serra - Rio Grande do Sul during the harvests of the period 2020 to 2030?

Thus, the general objective of this study is to analyze the return on investment based on the economic result generated by the sale of grape and peach in a rural property of Campestre da Serra - Rio Grande do Sul during the 2020 to 2030 harvests.

The proposed objective is based on its family cultivating peach and grape, emerging the curiosity to know which variety will bring a greater economic return. The study will help the family, which depends entirely on financial resources, from the cultivation of orchards. The lack of effective data harms the producer who invests in a given orchard and ends up obtaining little remuneration, compared to another crop.

The main beneficiary of the study will be the manager of the property, through the identification of revenue, its costs and expenses, being possible to make an estimate of the result obtained in the period.

In view of the difficulty of measuring the costs and expenses in rural property, the study will not only contribute to your family, but your community and producers from other locations, and can serve as a modeland be plicated in other properties.

II. THEORETICAL FRAMEWORK

In this chapter will be presented several theoretical concepts related to the proposed theme, such as accounting, cost accounting, rural accounting, agribusiness, cost management, theories that are related to the theme, providing sustainability to work.

For Lakatos and Marconi (GUTH and PINTO 2007, p. 142) " with a view to answering the question "how? ", the theoretical basis, contains the literary basis on the subject, as well as the definition of the concepts employed. "

2.1 AGRIBUSINESS

The concept of agribusiness derives from the expression "agribusiness", attributed to Davis and Goldberg (1957), and refers to all operations of production and distribution of agricultural supplies; production operations on the farm; storage, processing, industrialisation and distribution of agricultural products. (Feix, Junior, Agranonik, 2017, p.5).

Data demonstrated by IBGE 2017, from the 2017 Agricultural Census, indicate that in all national territory, there are more than 5,073,324 agricultural establishments, 7.2% of which are in Rio Grande do Sul, and that it ranks 4th in the IBGE ranking. The total area of these establishments reaches a total of 351,289,816 hectares, in Rio Grande do Sul, the mark is 21,684,558. In Rio Grande do Sul, there are more than 992,000 people who work in the field, and who depend on agribusiness for their livelihood.

The agribusiness business, encompasses the entire production chain, which are classified in segments, before the gate, which is the supply of machinery, supplies and specialized service, within the gate, which is what is involved with the preparation and management of the harvest, and after the port, which is related to transport, storage and industrialization and marketing. (FEIX, JUNIOR AND AGRANONIK, 2017.)

The CNA (Confederation of Agriculture and Livestock of Brazil) announced on its website that in the

first two months of 2020 there was a growth in GDP (Gross Domestic Product) of agribusiness of 2.42% compared to the first two months of 2019.

According to Feix and Júnior (2019, p. 22)"Temporary and permanent agriculture occupies approximately nine million hectares in Rio Grande do Sul. About 95% of this area is focused on grain (cereals and oilseeds) production, which is the main agricultural activity of the State. "

Agribusiness ranges from production to the sale of the product, and it is possible to perceive the importance it has in Brazil and in the world. Present in most states, agriculture is something that is very proud of our country, assisting in the economy, bringing income and food to all.

2.2 - ACCOUNTING

Accounting is a very important science that assists the entire community, it studies, records and interprets phenomena that affect the heritage of any entity. One of its purposes is to provide necessary information, to assist in decision making and also to have good planning.

Since antiquity, man has directed efforts in order to organize and manage his profits, aiming at increasing his wealth. And it is through accounting that this process has become possible. More than exclusively managing and constituting riches, accounting has become an indispensable tool for modern man. (ALMEIDA, ANGELS, 2018, p. 2).

Generally speaking, when it comes to accounting, the first impression that comes to mind, is that only companies need this tool, but in fact it is quite the opposite. Of course, for companies, regardless of billing, accounting is indispensable, but accounting goes beyond that, it is necessary for both good control and personal financial planning as also necessary for rural producers.

The accounting context is unique, but accounting covers vast information for different branches. It is important to emphasize that for each type of activity it is necessary to apply techniques of different types. For the rural environment, rural accounting techniques are applied, necessary for control and administration of rural property, is a fundamental tool for rural producers, because through it it is possible to measure information to control their property and finances and assists in the decision-making of the producer.

2.2.1 - Rural accounting

Agriculture represents all the activity of exploitation of the land, be it the cultivation of crops and forests or the creation of animals, with a view to obtaining products that will meet human needs. (CREPALDI, 2019, p. 1).

Rural accounting is very important for the agriculture industry, regardless of whether it is large, medium or small producer, it is the accounting that assists the rural producer in the administration of his crop or orchard, controlling economically and financially the property, a tool that assists in decision making.

The contability inBrazil is littleused,due to the lack of knowledge of the importance of the information that rural accounting provides to the entrepreneur and the importance of it for decisionmaking. This ignorance is part of both entrepreneurs, who manage their crops, and accountants. (CREPALDI, 2019)

In rural areas, it is more difficult to apply accounting due to the great difficulty of separating what are production costs and what are expenses, especially when the producer owns more than one type of crop on his property and when the orchards are of permanent crops. An example that can be used is the difficulty of measuring the hours worked with the same machinery used in different orchards.

2.2.2 - Permanent crops

Permanent crops of long duration, which after their harvest do not require a new planting, but have been fixed to the soil for several consecutive years. Some examples of permanent crops are peach, grape, orange, coffee, bergamot, plum, permaqui crops, etc.

The accounting of permanent crop orchards requires little more attention, but ensures accurate information that helps the producer to define what is cost or expense of the respective orchard.

According to ibge 2017 data from the city of Campestre da Serra - Rio Grande do Sul,there are approximately 450 properties that use their land with some permanent culture, they are: plum, blackberry, banana, permaqui, fig, kiwi, orange, apple, walnut, pear, peach, bergamot and grape.

2.2.3 Vine culture

The area cultivated with vines in Brazil, in 2018, was 75,951 ha, the cultivation of this crop produced in the same year 1,592,242 tons of grape. The Southern region of Brazil is home to the largest viticulture area in the country, where it had a 73.35% share of all production. Rio Grande do Sul, is the state that stands out in grape production, and is responsible for 62.39% of the national wine area, in 2018 was responsible for the production of 822,689 toneladas. (MELLO, 2019, p.3).

The vine is a permanent crop that had a strong influence of Italian colonization, most of its cultivation is located in the northeast of the State of Rio Grande do Sul, especially the Serra region. All municipalities that produce on average more than 10,000 tons/year in the period 2016-2018 are located in the Serra region, with the exception of Monte Alegre dos Campos and Campestre da Serra, which are located in the Campos de Cima da Serra region. (SOCIO-ECONOMIC ATLAS RIO GRANDE DO SUL, 2019).

Only a small part of its cultivation is intended for table consumption, the grape is more used for making juice and wines. There are several varieties of grape, burgundy, isabel, merlot, cabernet, pink niágara, white niagara, among other varieties.

The production of the variety of the rosada niágara grape focuses on meeting the consumption in natura. Generally the producers of this variety, invest in new technology, such as the use of plastic cover and irrigation, to optimize their production both in yield and quality.

2.2.4 Peach culture

The peach tree is a species native to China, which would have been taken from China to Persia and then spreading throughout Europe, studies indicate that the species remoteto 20 centuries to C.. In Brazil, according to reports, the peach tree was introduced in 1532 by Martim Afonso de Souza, through seedlings brought from Madeira Island and planted in São Vicente, now the state of São Paulo. (EMBRAPA, 2003).

In Brazil, the states located in the southern region have the best natural conditions for commercial peach production. It is also possible to produce it in other states with less demanding cold cultivars or in microclimatic seasons appropriate to the minimum viable requirements, technically and economically. Rio Grande do Sul is the largest national producer of peach, being possible to find its cultivation in all regions of the state. (EMBRAPA, 2003).

The variety of peach fascination was launched in 2012, production in adult plants reaches an average of 90 kg/plant and adapts in regions with 200 to 300 hours of hibernation cold. (EMBRAPA, 2020).

Data from IBGE 2018 report that in Brazil, the amount produced tons of peach reached 219,598 nationwide, the states of Rio grande do Sul, Santa Catarina and Paraná produced a total of 176,799 tons. The state of Rio Grande do Sul was responsible for most of it, totaling 146,431 tons produced.

2.3. COST ACCOUNTING

Cost management aims to analyze the possibility of minimizing costs and maximizing profit, through facts and reports that enable the separation of costs and expenses. Cost accounting helps companies of different branches, among many there are industrial, commercial and agricultural companies as well, being responsible for generating information that serves for decision making, planning and also in increasing the profitability of the company.

Cost accounting arose due to the need to measure the costs of products to facilitate the calculation of the result, over the years, cost accounting has become a very important tool in the management area of companies, being also used in planning, cost control, decision making and meeting fiscal and legal requirements. (ATKINSON, BANKER, KAPLAN AND YOUNG,2000 apud CREPALDI And CREPALDI, 2018)

Over time, cost accounting has been evolving and is no longer just an instrument that assists in the valuation of inventories and profits. With modernization it is becoming an important instrument of control and support for decision making. As a management tool, it ceased to be an instrument only that industrial companies used, and began to be used in several other fields. (CREPALDI and CREPALDI, 2018)

For Ribeiro (2013, p.13) cost accounting is a branch applied only in industrial companies. The author refers to cost accounting, such as industrial accounting, being applied only to assets of industrial companies. For the author industrial companies are those whose main activity is focused on the transformation of raw material into products.

Cost accounting is characterized by being a set of specific records, such as bookkeeping-based records supported by tools such as spreadsheets, apportionments, calculations, and many others, to identify, measure, and report sales costs for products, goods, and services. (CREPALDI and CREPALDI, 2018)

Crepaldi and Crepaldi bring a more revolutionary view of cost accounting, and can be applied in all branches of companies, for Ribeiro, cost accounting can only be applied in industrial companies. But everyone is aware that cost accounting is an essential tool that assists managers in decision making.

III. METHODOLOGY

The research methodology aims to help the researcher understand theprocess of research

It is characterized by the proposal to discuss and evaluate the characteristics of science and other forms of knowledge, such as methodological approach, focusing on planning, presentation, execution and reporting. (GUTH and PINTO, 2007)

The methodology is a way to be followed to reach a certain end, and that aims to evaluate, criticize and limit the study.

3.1 RESEARCH DESIGN

To Guth and Pinto (2007, p. 41). " When to the objectives the research can be exploratory, descriptive or explanatory. What determines the choice of one or the other type are the established objectives. "

For the proper study, an exploratory research will be applied, which for Gil (apud PEREIRA, 2019, p. 90) exploratory research "provides greater familiarity with the problem in order to make it explicit or to construct hypotheses. It involves bibliographic survey, interviews with people who had practical experiences with the problem researched. "

It can be affirmed that exploratory research takes a form of case study, bibliographic research will be used to give basis and foundation to the study and also property data to solve the problem researched.

The case study explores real-life situations in order to find solutions to situations that have not yet been defined, preserving the character of the object studied, formulations of hypotheses, explanations of phenomena. (GUTH and PINTO, 2007)

As for the procedure, for Guth and Pinto (2007, p. 47), "the design refers to the planning of the research in which its deepest dimension involving both the diagramming and the prediction of analysis and interpretation of data collection."

In this case study, it is intended to collect data from the property for analysis and interpretation of the same. In addition to the collection of data on the property, budgets will be made with companies in the region to obtain data on the amount that will be invested for coverage and irrigation. Through the data will be applied all methods and rationale to analyze the investment proposal of the research.

The research design will be carried out through bibliographic research, in which books, scientific articles and other means of publications and the collection of property data will be used.

The main objective of the research is to assist rural producers in making decisions on their property and in the administration of the site.

3.2 STUDY PARTICIPANTS (QUALITATIVE STUDY) AND/OR POPULATION AND SAMPLE (QUANTITATIVE STUDY)

A quantitative research will be applied, as a data analysis will be performed to obtain a concrete result. According to the authors Guth and Pinto (2007, p. 75) skin is characterized as a statistical instrument both for the data collection phase and for the treatment of the collected data, [...], because it is concerned only with the general behavior of the facts.

The participants of the sample will be the rural producers who have the same cultures of the study, will be used information from the producer block of the same to make an average of the production volume and sales price.

3.3 DATA COLLECTION AND ANALYSIS PROCESS

Data collection will be through budgets and information through interviews with the producer himself, since he has both varieties on his property, however, exposed to the effects of time, affecting the quality of the product and also endangering its harvest. The implementation of the orchards will be funded through the BNDS (National Bank for Economic and Social Development), and the payment will take place year by year, until the end of the period of 10 years.

The analysis of the study will be done through the use of cost accounting in the fruit sector, seeking to identify all the costs incurred in the implementation and production and analyze their profitability. An analysis of the contribution margin, net present value, internal rate of return, payback and cash flow will be made.

IV. RESEARCH RESULTS

In this part will be presented the analysis of data and information on the feasibility of implantation of a peach orchard and other orchard of vines, of which an investment analysis will be made and find out which is the most profitable for the producer in a period of 10 years, crop 2020/2021 to 2030/2031.

For the implementation of permanent crop orchards, will be taken into account all technology that today is necessary for a production of good quality and productivity. In the project, the orchards will be covered and irrigated, the vines having plastic cover and the peach screens anti hail.

As a projection of years will be made, it was considered an annual inflation of 5.85%, in the value of costs and expenses, and also in the value of the sales price.

To reach this index, an average was made using the values of the Accumulated National Index of Broad Consumer Prices (IPCA) of each year, from 2010 to 2019.

4.1 PRESENTATION OF THE INVESTMENT OF ORCHARDS

The initial cost for the implementation of orchards of 1 hectare each was calculated through a research with companies close to the region, which provided the structure of these orchards and budget for their implementation. In Tables 1 and 2, we can analyze the composition of materials needed for the implantation of orchards.

Chart 1 is the materials used for the implantation of parreiral, it is worth mentioning that it was considered an orchard of rosadania vines, which has cover and irrigation, which help in a production of quality and also of quantity.

Table 1 - Parreiral investment base.

BASE DE INVESTIMENTO PARREIRAL							
MATERIAL	**UNIDADE**	**QUANT**	**VALOR UNIT.**		**VALOR TOTAL**		**PERCETUAL**
MUDAS	UN.	2680	R$	10,00	R$	26.800,00	15,99%
RABICHO	UN.	148	R$	14,00	R$	2.072,00	1,24%
RABICHO DE CANTO	UN.	4	R$	120,00	R$	480,00	0,29%
PALANQUE DE CANTO	UN.	4	R$	120,00	R$	480,00	0,29%
PALANQUES DE ESCORA	UN.	1280	R$	8,00	R$	10.240,00	6,11%
PALANQUES LATERAIS	UN	148	R$	25,00	R$	3.700,00	2,21%
CORDOALHA 7 FIOS	METROS	220	R$	7,00	R$	1.540,00	0,92%
CORDOALHA 3 FIOS	METROS	3500	R$	1,25	R$	4.375,00	2,61%
ARAME LISO DE 1.000 MTS.	ROLOS	28	R$	320,00	R$	8.960,00	5,35%
ARAME LISO NÚMERO 20	KG	6	R$	20,00	R$	120,00	0,07%
MÃO DE OBRA		1	R$	25.000,00	R$	25.000,00	14,92%
HORA MÁQUINA	HORAS	10	R$	250,00	R$	2.500,00	1,49%
PALANQUE 3 MTS TRATADO	UN	80	R$	30,00	R$	2.400,00	1,43%
COBERTURA	UN	1	R$	64.086,80	R$	64.086,80	38,25%
IRRIGAÇÃO	UN	1	R$	14.807,62	R$	14.807,62	8,84%
TOTAL DO INVESTIMENTO					**R$**	**167.561,42**	**100%**

BASE DE INVESTIMENTO PARREIRAL							
MATERIAL	**UNIDADE**	**QUANT**	**VALOR UNIT.**		**VALOR TOTAL**		**PERCETUAL**
MUDAS	UN.	2680	R$	10,00	R$	26.800,00	15,99%
RABICHO	UN.	148	R$	14,00	R$	2.072,00	1,24%
RABICHO DE CANTO	UN.	4	R$	120,00	R$	480,00	0,29%
PALANQUE DE CANTO	UN.	4	R$	120,00	R$	480,00	0,29%
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MÃO DE OBRA		1	R$	25.000,00	R$	25.000,00	14,92%
HORA MÁQUINA	HORAS	10	R$	250,00	R$	2.500,00	1,49%
PALANQUE 3 MTS TRATADO	UN	80	R$	30,00	R$	2.400,00	1,43%
COBERTURA	UN	1	R$	64.086,80	R$	64.086,80	38,25%
IRRIGAÇÃO	UN	1	R$	14.807,62	R$	14.807,62	8,84%
TOTAL DO INVESTIMENTO					**R$**	**167.561,42**	**100%**

Source: Producer data, prepared by the author (2020).

Table 1 details the base of materials used for the implantation of the vine orchard, the total value of the initial investment is R$ 167,561.42. A loan will be made through the bank, of the total amount, with a payment term of 10 years.

Chart 2 is the materials needed to implement the orchard of peach trees of the fascination type.

Table 2 - Peach orchard investment base.

BASE DE INVESTIMENTO PÊSSEGOS						
MATERIAL	**UNIDADE**	**QUANT**	**VALOR UNIT.**		**VALOR TOTAL**	**PERCENTUAL**
MUDAS	UN.	1000	R$ 10,00	R$	10.000,00	12,60%
MÃO DE OBRA	HORAS	10	R$ 120,00	R$	1.200,00	1,51%
HORA MÁQUINA	HORAS	10	R$ 250,00	R$	2.500,00	3,15%
COBERTURA	UN.	1	R$ 54.404,00	R$	54.404,00	68,57%
IRRIGAÇÃO	UN.	1	R$ 11.232,62	R$	11.232,62	14,16%
TOTAL DO INVESTIMENTO				**R$**	**79.336,62**	**100,00%**

Source: Producer data, prepared by the author (2020).

Table 2 details the base of materials used for the implementation of the peach orchard, the total value of the initial investment is R$ 79,336.62. A loan will be made through the bank, of the total amount, with a payment term of 10 years.

Analyzing Tables 1 and 2, it is possible to notice that indifferent to the type of plantation that the producer chooses, its largest expenditure will be on the orchard cover, in the investment of the parreiral, the coverage is responsible for 38.25% of the total investment, while in the investment of the peach orchard this percentage increases even more, totaling 68.57% of the total investment.

Even so, for the rural producer, it becomes advantageous to cover their orchards, assisting in the higher productivity and quality of the fruit, and also assisting in the protection of orchards against hail storms.

Comparing one investment with the other, it is possible to perceive the difference in value for the implantation of the orchards. The peach orchard has a much lower expenditure compared to parreiral, this happens due to the demand for structure to keep the parreiral standing, and also the differentiated labor for each orchard.

The labor force used is the largest differential between investments, R$ 25,000.00 for parreiral implantation, and only R$ 1,200.00 for the planting of peach trees. This difference is due to the being different segments, each culture has its own structure.

For the implementation of parreiral is necessary all labor for installation of podiums, wire, rabichos and planting, already in the orchard of peach trees, the labor is only for planting the plant.

But in addition to all the expenses that the producer will have on the implementation, will also have expenses with the conduct of the orchard, agricultural insums, insurance and taxes on land.

4.2 COSTS IN THE CONDUCT OF ORCHARDS

All information on the costs of conducting the orchards was provided by the producers in the region who grow this same type of fruit. After the interview with the producers, it was necessary to contact companies close to the region to budget the products used by the producers.

Tables 3, 4, 5 and 6 deal with the driving costs of each orchard, starting from the 2020/2021 harvest until the 2029/2030 harvest.

Table 3 - Cost of grape production.

CUSTO DE PRODUÇÃO DA UVA										
CUSTO DE PRODUÇÃO DE 1 HECTARE	**2020/2021**		**2021/2022**		**2022/2023**		**2023/2024**		**2024/2025**	
INSUMOS AGRÍCOLAS	R$	3.152,00	R$	3.336,39	R$	3.732,13	R$	3.950,46	R$	4.181,56
MÃO DE OBRA CONTRATADA	R$	1.950,00	R$	2.064,08	R$	10.644,01	R$	11.266,69	R$	11.925,79
FRETE					R$	605,03	R$	640,42	R$	677,89
HORAS MÁQUINAS	R$	900,00	R$	952,65	R$	1.344,51	R$	1.423,16	R$	1.506,42
ITR	R$	63,76	R$	67,49	R$	71,44	R$	75,62	R$	80,04
TOTAL	**R$**	**6.065,76**	**R$**	**6.420,61**	**R$**	**16.397,11**	**R$**	**17.356,34**	**R$**	**18.371,69**

Source: Producer data, prepared by the author (2020).

For the survey of costs, was taking into account all agricultural insums, labor, used for pruning, mooring, harvesting, freight, hour machines and land tax. The ITR (Rural Territorial Tax), in the municipality of Campestre da Serra,

is calculated on the value of bare land, R$ 3,188.00 per hectare, the rate is based on the Selic rate, which at the moment is 2%.

Table 4 Shows the continuation of the calculation of grape production costs.

CUSTO DE PRODUÇÃO DA UVA					
CUSTO DE PRODUÇÃO DE 1 HECTARE	**2025/2026**	**2026/2027**	**2027/2028**	**2028/2029**	**2029/2030**
INSUMOS AGRÍCOLAS	R$ 4.426,18	R$ 4.685,11	R$ 4.959,19	R$ 5.249,30	R$ 5.556,39
MÃO DE OBRA CONTRATADA	R$ 12.623,45	R$ 13.361,92	R$ 14.143,59	R$ 14.970,99	R$ 15.846,79
FRETE	R$ 717,54	R$ 759,52	R$ 803,95	R$ 850,98	R$ 900,77
HORAS MÁQUINAS	R$ 1.594,54	R$ 1.687,82	R$ 1.786,56	R$ 1.891,07	R$ 2.001,70
ITR	R$ 84,72	R$ 89,68	R$ 94,93	R$ 100,48	R$ 106,36
TOTAL	**R$ 19.446,43**	**R$ 20.584,05**	**R$ 21.788,21**	**R$ 23.062,82**	**R$ 24.412,00**

Source: Producer data, prepared by the author (2020).

For the calculation of freight, it was estimated a value of R $ 3.00 the kilometer wheeled, and a total of 180 kilometers traveled for delivery of the grape, the distance between the orchard of the producer to the city for delivery is 15 kilometers, considering round trip totals 30 kilometers each trip. This value was used in 2020, with an adjustment each year of 5.85%. To choose the index, an average inflation was made for the years 2010 to 2019. The same index used to correct revenues.

Production starts from the 2022/2023 crop, and so the costs increase in value, from the 2022/2023 to 2029/2030 crop to 2029/2030 the amount of insum, labor, freight, machinery hours and land tax are the same, the difference in value is due to the annual adjustment of the values, that is, 5.85% per year.

To estimate the costs of peach orchard, was also taken into account the same annual adjustment and also the same basis on the land tax, the difference is that, from the harvest 2021/2022 begins the production of fruits, and with this the cost is higher, tripling its value, after this harvest the costs remain equal only, only suffer the annual adjustment.

The freight value was also considered the same value, R $ 3.00 the kilometer wheeled, the difference is only in mileage, which happens to be 150 kilometers, the same 30 kilometers were considered for the calculation of freight, the difference is in the amount of trips for the freight of the grape was considered 6 trips and for peaches 5 trips. The table better shows us how the costs look during the period analyzed.

Table 5 - Cost of peach production.

CUSTO DE PRODUÇÃO DO PÊSSEGO					
CUSTO DE PRODUÇÃO DE 1 HECTARE	**2020/2021**	**2021/2022**	**2022/2023**	**2023/2024**	**2024/2025**
INSUMOS AGRÍCOLAS	R$ 3.620,50	R$ 3.832,30	R$ 6.030,11	R$ 6.382,87	R$ 6.756,27
MÃO DE OBRA CONTRATADA	R$ 1.050,00	R$ 9.103,10	R$ 9.635,63	R$ 10.199,32	R$ 10.795,98
FRETE		R$ 476,33	R$ 504,19	R$ 533,69	R$ 564,91
HORAS MÁQUINAS	R$ 1.300,00	R$ 1.058,50	R$ 1.120,42	R$ 1.185,97	R$ 1.255,35
SEGURO		R$ 4.763,25	R$ 5.041,90	R$ 5.336,85	R$ 5.649,06
ITR	R$ 63,76	R$ 67,49	R$ 71,44	R$ 75,62	R$ 80,04
TOTAL	**R$ 6.034,26**	**R$ 19.300,96**	**R$ 22.403,69**	**R$ 23.714,31**	**R$ 25.101,60**

Fonte: Producer data, prepared by the author (2020).

The first year, 2020/2021 crop, has a reduced cost compared to subsequent harvests. This reduction is due to the no harvest in 2021/2021, and therefore its costs are reduced, it is observed that there is a large increase in the labor of 2021/2022 compared to the 2020/2021 crop, an increase caused by the labor used in harvesting, pruning and thleging.

Table 6 shows the continuation of the calculation of peach costs.

Table 6 - Cost of peach production.

CUSTO DE PRODUÇÃO DO PÊSSEGO					
CUSTO DE PRODUÇÃO DE 1 HECTARE	**2025/2026**	**2026/2027**	**2027/2028**	**2028/2029**	**2029/2030**
INSUMOS AGRÍCOLAS	R$ 7.151,51	R$ 7.569,88	R$ 8.384,92	R$ 8.481,46	R$ 8.977,62
MÃO DE OBRA CONTRATADA	R$ 11.427,54	R$ 12.096,05	R$ 12.431,47	R$ 13.552,69	R$ 14.345,52
FRETE	R$ 597,95	R$ 632,93	R$ 669,96	R$ 709,15	R$ 750,64
HORAS MÁQUINAS	R$ 1.328,78	R$ 1.406,52	R$ 1.488,80	R$ 1.575,89	R$ 1.668,08
SEGURO	R$ 5.979,53	R$ 6.329,33	R$ 6.699,60	R$ 7.091,52	R$ 7.506,38
ITR	R$ 84,72	R$ 89,68	R$ 94,93	R$ 100,48	R$ 106,36
TOTAL	**R$ 26.570,04**	**R$ 28.124,39**	**R$ 29.769,67**	**R$ 31.511,19**	**R$ 33.354,60**

Source: Producer data, prepared by the author (2020).

It was considered safe only for the peach orchard, because the cover only protects from hail rains, if there is some frost during the period of fruit formation the cover will not protect it. In the case of vines, it was not considered safe, because the producers claim that with the cover the vine and its production are protected from hail rains.

The values were presented only their totalities, due to the large accumulation of information, because it is a projection for 10 years, plus all costs were included according to the production and the need of each crop.

As mentioned above, the projection of costs was made according to information of producers who have this type of crops, and after data collection the product budget, labor and insurance for their projection.

4.3 RECIPES

Revenue swerves from the sale of goods and the provision of services. There are other activities that can generate revenue and that are not linked to the sale or provision of service, such as rents or income from a financial application.

For the study, the average used amount of grape harvested was 30,000 kilos per hectare, and peach 25,000 kilos per hectare. The selling price was extracted from the notes issued from 2015 to 2019 from the blocks of rural producers that have these crops on their properties and from these made an average of the value.

The Tables below better detail this information, showing us the gross and net revenue of each crop over a 10-year period. Funrural, rural worker assistance fund, is a fund focused on social contribution, its collection is mandatory, and essential for rural producers to retire.

The value in Funrural, focuses on gross revenue, and its rate of 1.5 % (1.2% INSS + 0.1% RAT + 0.2% SENAR) is considered only for rural producers individuals.

Table 7 - Recipes obtained vine.

RECEITAS SAFRAS 2020/2021 A 2029/2030 - VIDEIRA					
SAFRAS	**QUANT COLHIDA**	**VALOR UNIT**	**REC. BRUTA**	**FUNRURAL 1,5%**	**RECEITA LÍQUIDA**
2020/2021	-	-	-	-	-
2021/2022	-	-	-	-	-
2022/2023	30.000	R$ 2,40	R$ 72.000,00	R$ 1.080,00	R$ 70.920,00
2023/2024	30.000	R$ 2,54	R$ 76.200,00	R$ 1.143,00	R$ 75.057,00
2024/2025	30.000	R$ 2,69	R$ 80.700,00	R$ 1.210,50	R$ 79.489,50
2025/2026	30.000	R$ 2,85	R$ 85.500,00	R$ 1.282,50	R$ 84.217,50
2026/2027	30.000	R$ 3,01	R$ 90.300,00	R$ 1.354,50	R$ 88.945,50
2027/2028	30.000	R$ 3,19	R$ 95.700,00	R$ 1.435,50	R$ 94.264,50
2028/2029	30.000	R$ 3,38	R$ 101.400,00	R$ 1.521,00	R$ 99.879,00
2029/2030	30.000	R$ 3,57	R$ 107.100,00	R$ 1.606,50	R$ 105.493,50
TOTAL			**R$ 708.900,00**	**R$ 10.633,50**	**R$ 698.266,50**

Source: Producer data, prepared by the author (2020).

The amount of production will always be considered the same, in the case of the vine, from the 2022/2023 crop to the 2029/2030 harvest, was considered the same amount harvested, 30,000 kilos per year, as is being made a projection of the harvests, we chose to follow an average harvest of the past harvests. These quantities were also extracted from the notepads of producers who grow this type of crop.

Table 8 - Recipes obtained peach.

RECEITAS SAFRAS 2020/2021 A 2029/2030 - PÊSSEGO					
SAFRAS	**QUANT COLHIDA**	**VALOR UNIT**	**REC. BRUTA**	**FUNRURAL 1,5%**	**RECEITA LÍQUIDA**
2020/2021	-	-	-	-	-
2021/2022	25.000	R$ 2,00	R$ 50.000,00	R$ 750,00	R$ 49.250,00
2022/2023	25.000	R$ 2,12	R$ 53.000,00	R$ 795,00	R$ 52.205,00
2023/2024	25.000	R$ 2,24	R$ 56.000,00	R$ 840,00	R$ 55.160,00
2024/2025	25.000	R$ 2,37	R$ 59.250,00	R$ 888,75	R$ 58.361,25
2025/2026	25.000	R$ 2,51	R$ 62.750,00	R$ 941,25	R$ 61.808,75
2026/2027	25.000	R$ 2,66	R$ 66.500,00	R$ 997,50	R$ 65.502,50
2027/2028	25.000	R$ 2,81	R$ 70.250,00	R$ 1.053,75	R$ 69.196,25
2028/2029	25.000	R$ 2,98	R$ 74.500,00	R$ 1.117,50	R$ 73.382,50
2029/2030	25.000	R$ 3,15	R$ 78.750,00	R$ 1.181,25	R$ 77.568,75
TOTAL			**R$ 571.000,00**	**R$ 8.565,00**	**R$ 562.435,00**

Source: Producer data, prepared by the author (2020).

In the case of peach production, the same amount harvested in all harvests was also considered, 25,000 kilos, because it is a projection, the notepads of the past harvests were used to reach an average production.

As previously mentioned, the harvest period of the grape considered from the 2022/2023 crop, because in the first two years, the orchard is still in formation, and therefore has no active production yet. For the peach orchard, peach harvest was considered from the 2021/2022 crop, because in its second year it already has production.

4.5 DEPRECIATION OF ASSETS

Depreciation, which is also known as devaluation of a good or product, begins when the asset is in place and conditions for operation. For the study, the linear method of depreciation was used, that is, that the values will be constant in all periods. For the calculation of depreciation, the value of the good was used and divided by the useful life of the same.

Table 9 - Parreiral depreciation

TABELA DE IMOBILIZADO						
DESCRIÇÃO DO BEM	**ANO DO BEM**	**ANO DA AQUISIÇÃO**	**VIDA ÚTIL (ANO)**	**TAXA DE PREPRECIAÇÃO POR ANO**	**VALOR DO BEM**	**DEPRECIAÇÃO ANUAL**
TRATOR LS R50	2017	2017	20	5,00%	R$ 70.900,00	R$ 3.545,00
PULVERIZADOR REBOQUE 600 LT	2019	2019	20	5,00%	R$ 28.500,00	R$ 1.425,00
ROÇADEIRA 1,50 METROS	2019	2019	20	5,00%	R$ 5.500,00	R$ 275,00
TESOURA DE PODA ELETRICA	2019	2019	10	10,00%	R$ 7.000,00	R$ 700,00
ESPALHADOR DE ADUBO	2018	2018	20	5,00%	R$ 2.200,00	R$ 110,00
CARRETÃO	2008	2008	20	5,00%	R$ 1.500,00	R$ 75,00
PULVERIZADOR 200 LT	2007	2007	20	5,00%	R$ 5.000,00	R$ 250,00
PLATAFORMA BASCULANTE	2015	2015	20	5,00%	R$ 1.800,00	R$ 90,00
PLAINA TRATORIZADA	2017	2017	20	5,00%	R$ 2.200,00	R$ 110,00
PAVILHÃO	2017	2017	25	4,00%	R$ 70.000,00	R$ 2.800,00
PARREIRAL			30	3,33%	R$ 167.561,42	R$ 5.579,80
TOTAL						**R$ 14.959,80**

Source: Producer data, prepared by the author (2020).

For depreciation of parreiral, it was considered a useful life of the orchard of 30 years, 3.33% of depreciation per year, totaling a value of R$ 5,579.80 only depreciation of the parreiral.

Table 10 - Depreciation peach orchard

TABELA DE IMOBILIZADO						
DESCRIÇÃO DO BEM	ANO DO BEM	ANO DA AQUISIÇÃO	VIDA ÚTIL (ANO)	TAXA DE PREPRECIAÇÃO POR ANO	VALOR DO BEM	DEPRECIAÇÃO ANUAL
TRATOR LS R50	2017	2017	20	5,00%	R$ 70.900,00	R$ 3.545,00
PULVERIZADOR REBOQUE 600 LT	2019	2019	20	5,00%	R$ 28.500,00	R$ 1.425,00
ROÇADEIRA 1,50 METROS	2019	2019	20	5,00%	R$ 5.500,00	R$ 275,00
TESOURA DE PODA ELETRICA	2019	2019	10	10,00%	R$ 7.000,00	R$ 700,00
ESPALHADOR DE ADUBO	2018	2018	20	5,00%	R$ 2.200,00	R$ 110,00
CARRETÃO	2008	2008	20	5,00%	R$ 1.500,00	R$ 75,00
PULVERIZADOR 200 LT	2007	2007	20	5,00%	R$ 5.000,00	R$ 250,00
PLATAFORMA BASCULANTE	2015	2015	20	5,00%	R$ 1.800,00	R$ 90,00
PLAINA TRATORIZADA	2017	2017	20	5,00%	R$ 2.200,00	R$ 110,00
PAVILHÃO	2017	2017	25	4,00%	R$ 70.000,00	R$ 2.800,00
POMAR PÊSSEGO			15	6,67%	R$ 79.336,62	R$ 5.291,75
TOTAL						R$ 14.671,75

Source: Producer data, prepared by the author (2020).

Tables 9 and 10 show a small difference in the total depreciated value, this small difference occurs due to the difference in useful life between the parreiral and the orchard, the parreiral has a useful life of 30 years and the peach orchard has a useful life of 15 years, because of this there was not much difference in depreciated values. The other goods will remain the same because they all meet the needs of the crops.

4.5 INCOME STATEMENT FOR THE YEAR

To elaborate the demonstration of the results, we considered all the data mentioned above, its main objective is to detail the formation of the net result of each crop crop and crop, in order to analyze the result obtained, and compare one crop with the other.

Tables 11 and 12 show the results obtained from the vine orchard, and Tables 13 and 14 show us the result obtained by the peach orchard.

Table -11 DRE vine.

DEMOSTRAÇÃO DO RESULTADO DO EXERCÍCIO - VIDEIRA					
	2020/2021	2021/2022	2022/2023	2023/2024	2024/2025
PRODUÇÃO DE 1 HECTARE (KG)	-	-	30.000	30.000	30.000
PREÇO DE VENDA	-	-	R$ 2,40	R$ 2,54	R$ 2,69
RECEITA BRUTA	-	-	R$ 72.000,00	R$ 76.200,00	R$ 80.700,00
(-) IMPOSTOS - FUNRURAL 1,5%	-	-	R$ 1.080,00	R$ 1.143,00	R$ 1.210,50
(=) RECEITA LÍQUIDA	-	-	R$ 70.920,00	R$ 75.057,00	R$ 79.489,50
(-) CUSTOS VARIÁVEIS	R$ 5.102,00	R$ 5.400,47	R$ 14.376,14	R$ 15.217,14	R$ 16.107,34
INSUMOS AGRÍCOLAS	R$ 3.152,00	R$ 3.336,39	R$ 3.732,13	R$ 3.950,46	R$ 4.181,56
MÃO DE OBRA CONTRATADA	R$ 1.950,00	R$ 2.064,08	R$ 10.644,01	R$ 11.266,69	R$ 11.925,79
(-) DESPESAS VARIÁVEIS	R$ 900,00	R$ 952,65	R$ 1.949,53	R$ 2.063,58	R$ 2.184,30
FRETE	-	-	R$ 605,03	R$ 640,42	R$ 677,89
HORAS MÁQUINAS	R$ 900,00	R$ 952,65	R$ 1.344,51	R$ 1.423,16	R$ 1.506,42
(=) MARGEM DE CONTRIBUIÇÃO	-R$ 6.002,00	-R$ 6.353,12	R$ 54.594,33	R$ 57.776,28	R$ 61.197,85
(-) CUSTOS FIXOS	R$ 14.959,80	R$ 14.959,80	R$ 14.959,80	R$ 14.959,80	R$ 14.959,80
DEPRECIAÇÃO DO PARREIRAL	R$ 5.579,80	R$ 5.579,80	R$ 5.579,80	R$ 5.579,80	R$ 5.579,80
DEPRECIAÇÃO DOS BENS	R$ 9.380,00	R$ 9.380,00	R$ 9.380,00	R$ 9.380,00	R$ 9.380,00
(-) DESPESAS FIXAS	R$ 63,76	R$ 67,49	R$ 71,44	R$ 75,62	R$ 80,04
ITR	R$ 63,76	R$ 67,49	R$ 71,44	R$ 75,62	R$ 80,04
(-) DESPESAS FINANCEIRAS	R$ -	R$ -	R$ -	R$ 52.399,09	R$ 29.682,31
TAXAS/ JUROS DE EMPRÉSTIMOS				28.793,17	6.076,39
AMORTIZAÇÃO DO EMPRÉSTIMO				23.605,92	23.605,92
(=) RESULTADO FINANCEIRO	-R$ 21.025,56	-R$ 21.380,41	R$ 39.563,09	-R$ 9.658,23	R$ 16.475,70
(-) IR	-	-	-	-	-
(=) RESULTADO OPERACIONAL	-R$ 21.025,56	-R$ 21.380,41	R$ 39.563,09	-R$ 9.658,23	R$ 16.475,70

Source: Producer data, prepared by the author (

2020).

Table 12 shows the continuation of the calculation of vine recipes.

Table 12 - DRE vine.

DEMOSTRAÇÃO DO RESULTADO DO EXERCÍCIO - VIDEIRA					
	2025/2026	2026/2027	2027/2028	2028/2029	2029/2030
PRODUÇÃO DE 1 HECTARE (KG)	**30.000**	**30.000**	**30.000**	**30.000**	**30.000**
PREÇO DE VENDA	R$ 2,85	R$ 3,01	R$ 3,19	R$ 3,38	R$ 3,57
RECEITA BRUTA	**R$ 85.500,00**	**R$ 90.300,00**	**R$ 95.700,00**	**R$ 101.400,00**	**R$ 107.100,00**
(-) IMPOSTOS - FUNRURAL 1,5%	R$ 1.282,50	R$ 1.354,50	R$ 1.435,50	R$ 1.521,00	R$ 1.606,50
(=) RECEITA LÍQUIDA	**R$ 84.217,50**	**R$ 88.945,50**	**R$ 94.264,50**	**R$ 99.879,00**	**R$ 105.493,50**
(-) CUSTOS VARIÁVEIS	**R$ 17.049,62**	**R$ 18.047,03**	**R$ 19.102,78**	**R$ 20.220,29**	**R$ 21.403,18**
INSUMOS AGRÍCOLAS	R$ 4.426,18	R$ 4.685,11	R$ 4.959,19	R$ 5.249,30	R$ 5.556,39
MÃO DE OBRA CONTRATADA	R$ 12.623,45	R$ 13.361,92	R$ 14.143,59	R$ 14.970,99	R$ 15.846,79
(-) DESPESAS VARIÁVEIS	**R$ 2.312,08**	**R$ 2.447,34**	**R$ 2.590,51**	**R$ 2.742,05**	**R$ 2.902,47**
FRETE	R$ 717,54	R$ 759,52	R$ 803,95	R$ 850,98	R$ 900,77
HORAS MÁQUINAS	R$ 1.594,54	R$ 1.687,82	R$ 1.786,56	R$ 1.891,07	R$ 2.001,70
(=) MARGEM DE CONTRIBUIÇÃO	**R$ 64.855,79**	**R$ 68.451,13**	**R$ 72.571,21**	**R$ 76.916,65**	**R$ 81.187,86**
(-) CUSTOS FIXOS	**R$ 14.959,80**	**R$ 14.959,80**	**R$ 14.959,80**	**R$ 14.959,80**	**R$ 14.959,80**
DEPRECIAÇÃO DO PARREIRAL	R$ 5.579,80	R$ 5.579,80	R$ 5.579,80	R$ 5.579,80	R$ 5.579,80
DEPRECIAÇÃO DOS BENS	R$ 9.380,00	R$ 9.380,00	R$ 9.380,00	R$ 9.380,00	R$ 9.380,00
(-) DESPESAS FIXAS	**R$ 84,72**	**R$ 89,68**	**R$ 94,93**	**R$ 100,48**	**R$ 106,36**
ITR	R$ 84,72	R$ 89,68	R$ 94,93	R$ 100,48	R$ 106,36
(-) DESPESAS FINANCEIRAS	**R$ 28.724,81**	**R$ 27.767,32**	**R$ 26.809,83**	**R$ 25.852,33**	**R$ 24.894,84**
TAXAS/ JUROS DE EMPRÉSTIMOS	5.118,89	4.161,40	3.203,91	2.246,41	1.288,92
AMORTIZAÇÃO DO EMPRÉSTIMO	23.605,92	23.605,92	23.605,92	23.605,92	23.605,92
(=) RESULTADO FINANCEIRO	**R$ 21.086,46**	**R$ 25.634,33**	**R$ 30.706,66**	**R$ 36.004,05**	**R$ 41.226,86**
(-) IR	-	-	-	-	-
(=) RESULTADO OPERACIONAL	**R$ 21.086,46**	**R$ 25.634,33**	**R$ 30.706,66**	**R$ 36.004,05**	**R$ 41.226,86**

Fonte: Dados do produtor, elaborado pelo autor (2020).

In the first two years, the vine orchard showed negative results, but this is due to the fact that it does not have estimated production for this period, after which it is possible to perceive positives. In the period 2023/2024, operating results are negative again, due to the financial expenses of the period. The financial expenses come from the loan to cover investment expenses, a loan made in ten years to pay, with three years of grace and interest of 4% per year. The portion in the period 2023/2024 is higher, compared to the others due to the accumulation of the portions of the grace years.

Table 13 - Peach DRE.

DEMOSTRAÇÃO DO RESULTADO DO EXERCÍCIO - PÊSSEGO					
	2020/2021	2021/2022	2022/2023	2023/2024	2024/2025
PRODUÇÃO DE 1 HECTARE (KG)	-	**25000**	**25000**	**25000**	**25000**
PREÇO DE VENDA	-	R$ 2,00	R$ 2,12	R$ 2,24	R$ 2,37
RECEITA BRUTA	-	**R$ 50.000,00**	**R$ 53.000,00**	**R$ 56.000,00**	**R$ 59.250,00**
(-) IMPOSTOS - FUNRURAL 1,5%	-	R$ 750,00	R$ 795,00	R$ 840,00	R$ 888,75
(=) RECEITA LÍQUIDA	-	**R$ 49.250,00**	**R$ 52.205,00**	**R$ 55.160,00**	**R$ 58.361,25**
(-) CUSTOS VARIÁVEIS	**R$ 4.670,50**	**R$ 12.935,40**	**R$ 15.665,74**	**R$ 16.582,19**	**R$ 17.552,25**
INSUMOS AGRÍCOLAS	R$ 3.620,50	R$ 3.832,30	R$ 6.030,11	R$ 6.382,87	R$ 6.756,27
MÃO DE OBRA CONTRATADA	R$ 1.050,00	R$ 9.103,10	R$ 9.635,63	R$ 10.199,32	R$ 10.795,98
(-) DESPESAS VARIÁVEIS	**R$ 1.300,00**	**R$ 1.534,83**	**R$ 1.624,61**	**R$ 1.719,65**	**R$ 1.820,25**
FRETE	-	R$ 476,33	R$ 504,19	R$ 533,69	R$ 564,91
HORAS MÁQUINAS	R$ 1.300,00	R$ 1.058,50	R$ 1.120,42	R$ 1.185,97	R$ 1.255,35
(=) MARGEM DE CONTRIBUIÇÃO	**-R$ 5.970,50**	**R$ 34.779,78**	**R$ 34.914,64**	**R$ 36.858,16**	**R$ 38.988,75**
(-) CUSTOS FIXOS	**R$ 14.671,75**	**R$ 19.435,00**	**R$ 19.713,65**	**R$ 20.008,60**	**R$ 20.320,81**
DEPRECIAÇÃO DO POMAR	R$ 5.291,75	R$ 5.291,75	R$ 5.291,75	R$ 5.291,75	R$ 5.291,75
DEPRECIAÇÃO DOS BENS	R$ 9.380,00	R$ 9.380,00	R$ 9.380,00	R$ 9.380,00	R$ 9.380,00
SEGURO	-	R$ 4.763,25	R$ 5.041,90	R$ 5.336,85	R$ 5.649,06
(-) DESPESAS FIXAS	**R$ 63,76**	**R$ 67,49**	**R$ 71,44**	**R$ 75,62**	**R$ 80,04**
ITR	R$ 63,76	R$ 67,49	R$ 71,44	R$ 75,62	R$ 80,04
(-) DESPESAS FINANCEIRAS	**R$ -**	**R$ -**	**R$ -**	**R$ 24.809,81**	**R$ 14.053,92**
TAXAS/ JUROS DE EMPRÉSTIMOS	R$ -	R$ -	R$ -	R$ 13.476,01	R$ 2.720,12
AMORTIZAÇÃO DO EMPRÉSTIMO	R$ -	R$ -	R$ -	R$ 11.333,80	R$ 11.333,80
(=) RESULTADO FINANCEIRO	**-R$ 20.706,01**	**R$ 15.277,29**	**R$ 15.129,56**	**-R$ 8.035,87**	**R$ 4.533,98**
(-) IR	-	-	-	-	-
(=) RESULTADO OPERACIONAL	**-R$ 20.706,01**	**R$ 15.277,29**	**R$ 15.129,56**	**-R$ 8.035,87**	**R$ 4.533,98**

DEMOSTRAÇÃO DO RESULTADO DO EXERCÍCIO - PÊSSEGO					
	2020/2021	2021/2022	2022/2023	2023/2024	2024/2025
PRODUÇÃO DE 1 HECTARE (KG)	-	25000	25000	25000	25000
PREÇO DE VENDA	-	R$ 2,00	R$ 2,12	R$ 2,24	R$ 2,37
RECEITA BRUTA	-	**R$ 50.000,00**	**R$ 53.000,00**	**R$ 56.000,00**	**R$ 59.250,00**
(-) IMPOSTOS - FUNRURAL 1,5%	-	R$ 750,00	R$ 795,00	R$ 840,00	R$ 888,75
(=) RECEITA LÍQUIDA	-	**R$ 49.250,00**	**R$ 52.205,00**	**R$ 55.160,00**	**R$ 58.361,25**
(-) CUSTOS VARIÁVEIS	**R$ 4.670,50**	**R$ 12.935,40**	**R$ 15.665,74**	**R$ 16.582,19**	**R$ 17.552,25**
INSUMOS AGRÍCOLAS	R$ 3.620,50	R$ 3.832,30	R$ 6.030,11	R$ 6.382,87	R$ 6.756,27
MÃO DE OBRA CONTRATADA	R$ 1.050,00	R$ 9.103,10	R$ 9.635,63	R$ 10.199,32	R$ 10.795,98
(-) DESPESAS VARIÁVEIS	**R$ 1.300,00**	**R$ 1.534,83**	**R$ 1.624,61**	**R$ 1.719,65**	**R$ 1.820,25**
FRETE	-	R$ 476,33	R$ 504,19	R$ 533,69	R$ 564,91
HORAS MÁQUINAS	R$ 1.300,00	R$ 1.058,50	R$ 1.120,42	R$ 1.185,97	R$ 1.255,35
(=) MARGEM DE CONTRIBUIÇÃO	**-R$ 5.970,50**	**R$ 34.779,78**	**R$ 34.914,64**	**R$ 36.858,16**	**R$ 38.988,75**
(-) CUSTOS FIXOS	**R$ 14.671,75**	**R$ 19.435,00**	**R$ 19.713,65**	**R$ 20.008,60**	**R$ 20.320,81**
DEPRECIAÇÃO DO POMAR	R$ 5.291,75	R$ 5.291,75	R$ 5.291,75	R$ 5.291,75	R$ 5.291,75
DEPRECIAÇÃO DOS BENS	R$ 9.380,00	R$ 9.380,00	R$ 9.380,00	R$ 9.380,00	R$ 9.380,00
SEGURO	-	R$ 4.763,25	R$ 5.041,90	R$ 5.336,85	R$ 5.649,06
(-) DESPESAS FIXAS	**R$ 63,76**	**R$ 67,49**	**R$ 71,44**	**R$ 75,62**	**R$ 80,04**
ITR	R$ 63,76	R$ 67,49	R$ 71,44	R$ 75,62	R$ 80,04
(-) DESPESAS FINANCEIRAS	**R$ -**	**R$ -**	**R$ -**	**R$ 24.809,81**	**R$ 14.053,92**
TAXAS/ JUROS DE EMPRÉSTIMOS	R$ -	R$ -	R$ -	R$ 13.476,01	R$ 2.720,12
AMORTIZAÇÃO DO EMPRÉSTIMO	R$ -	R$ -	R$ -	R$ 11.333,80	R$ 11.333,80
(=) RESULTADO FINANCEIRO	**-R$ 20.706,01**	**R$ 15.277,29**	**R$ 15.129,56**	**-R$ 8.035,87**	**R$ 4.533,98**
(-) IR	-	-	-	-	-
(=) RESULTADO OPERACIONAL	**-R$ 20.706,01**	**R$ 15.277,29**	**R$ 15.129,56**	**-R$ 8.035,87**	**R$ 4.533,98**

Source: Producer data, prepared by the author (2020).

In the demonstration of peach results it is also possible to notice that in the first year, a negative result was obtained, from the second year on, it begins to present a positive and growing result. In the period 2023/2024, operating results are negative again, due to the financial expenses of the period.

Table 14 presents the continuation of the calculation of peach revenues.

Table 14 - DRE peach tree.

DEMOSTRAÇÃO DO RESULTADO DO EXERCÍCIO - PÊSSEGO					
	2025/2026	2026/2027	2027/2028	2028/2029	2029/2030
PRODUÇÃO DE 1 HECTARE (KG)	25000	25000	25000	25000	25000
PREÇO DE VENDA	R$ 2,51	R$ 2,66	R$ 2,81	R$ 2,98	R$ 3,15
RECEITA BRUTA	**R$ 62.750,00**	**R$ 66.500,00**	**R$ 70.250,00**	**R$ 74.500,00**	**R$ 78.750,00**
(-) IMPOSTOS - FUNRURAL 1,5%	R$ 941,25	R$ 997,50	R$ 1.053,75	R$ 1.117,50	R$ 1.181,25
(=) RECEITA LÍQUIDA	**R$ 61.808,75**	**R$ 65.502,50**	**R$ 69.196,25**	**R$ 73.382,50**	**R$ 77.568,75**
(-) CUSTOS VARIÁVEIS	**R$ 18.579,05**	**R$ 19.665,93**	**R$ 20.816,39**	**R$ 22.034,14**	**R$ 23.323,14**
INSUMOS AGRÍCOLAS	R$ 7.151,51	R$ 7.569,88	R$ 8.384,92	R$ 8.481,46	R$ 8.977,62
MÃO DE OBRA CONTRATADA	R$ 11.427,54	R$ 12.096,05	R$ 12.431,47	R$ 13.552,69	R$ 14.345,52
(-) DESPESAS VARIÁVEIS	**R$ 1.926,74**	**R$ 2.039,45**	**R$ 2.158,76**	**R$ 2.285,05**	**R$ 2.418,72**
FRETE	R$ 597,95	R$ 632,93	R$ 669,96	R$ 709,15	R$ 750,64
HORAS MÁQUINAS	R$ 1.328,78	R$ 1.406,52	R$ 1.488,80	R$ 1.575,89	R$ 1.668,08
(=) MARGEM DE CONTRIBUIÇÃO	**R$ 41.302,96**	**R$ 43.797,12**	**R$ 46.221,11**	**R$ 49.063,31**	**R$ 51.826,89**
(-) CUSTOS FIXOS	**R$ 20.651,28**	**R$ 21.001,08**	**R$ 21.371,35**	**R$ 21.763,27**	**R$ 22.178,13**
DEPRECIAÇÃO DO POMAR	R$ 5.291,75	R$ 5.291,75	R$ 5.291,75	R$ 5.291,75	R$ 5.291,75
DEPRECIAÇÃO DOS BENS	R$ 9.380,00	R$ 9.380,00	R$ 9.380,00	R$ 9.380,00	R$ 9.380,00
SEGURO	R$ 5.979,53	R$ 6.329,33	R$ 6.699,60	R$ 7.091,52	R$ 7.506,38
(-) DESPESAS FIXAS	**R$ 84,72**	**R$ 89,68**	**R$ 94,93**	**R$ 100,48**	**R$ 106,36**
ITR	R$ 84,72	R$ 89,68	R$ 94,93	R$ 100,48	R$ 106,36
(-) DESPESAS FINANCEIRAS	**R$ 13.600,56**	**R$ 13.147,21**	**R$ 12.693,86**	**R$ 12.240,51**	**R$ 11.787,15**
TAXAS/ JUROS DE EMPRÉSTIMOS	R$ 2.266,76	R$ 1.813,41	R$ 1.360,06	R$ 906,71	R$ 453,35
AMORTIZAÇÃO DO EMPRÉSTIMO	R$ 11.333,80	R$ 11.333,80	R$ 11.333,80	R$ 11.333,80	R$ 11.333,80
(=) RESULTADO FINANCEIRO	**R$ 6.966,40**	**R$ 9.559,15**	**R$ 12.060,97**	**R$ 14.959,05**	**R$ 17.755,25**
(-) IR	-	-	-	-	-
(=) RESULTADO OPERACIONAL	**R$ 6.966,40**	**R$ 9.559,15**	**R$ 12.060,97**	**R$ 14.959,05**	**R$ 17.755,25**

Fonte: Dados do produtor, elaborado pelo autor (2020).

The income tax was not considered, because from the year 2020 it is only mandatory to report if the producer has a gross income above R$ 142,782.50, and in the case of this study, no crop was reached this amount.

4.6 PROJECTED CASH FLOW

The projected cash flow is a projection of inputs and outputs for a given period, this projection is made according to actual input and output bases. For its elaboration, data were analyzed by rural producers, which were oscillated to get closer to an exact result.

Cash flow is fundamental for all types and companies and branches, as it helps to achieve proposed goals and objectives. The Tables below are representing the projected cash flow of each culture, transposing the flow of each period and the accumulated balance of each culture.

Table 15 - Projected Vines Cash Flow

FLUXO DE CAIXA VIDEIRAS					
DESCRIÇÃO	**2020/2021**	**2021/2022**	**2022/2023**	**2023/2024**	**2024/2025**
ENTRADAS	**R$ 173.627,18**	**6.420,61**	**R$ 72.000,00**	**R$ 76.200,00**	**R$ 80.700,00**
RECEITA DE VENDAS			R$ 72.000,00	R$ 76.200,00	R$ 80.700,00
CAPITAL PRÓPRIO	R$ 6.065,76	R$ 6.420,61			
EMPRÉSTIMOS	R$ 167.561,42				
SAÍDAS	**(173.627,18)**	**(6.420,61)**	**(17.477,11)**	**(70.898,43)**	**(49.264,50)**
INVESTIMENTO FIXO	**(167.561,42)**				
IMPLANTAÇÃO - IVESTIMENTO INICIAL	(167.561,42)				
CUSTOS DIRETOS	**(5.102,00)**	**(5.400,47)**	**(14.376,14)**	**(15.217,14)**	**(16.107,34)**
INSUMOS AGRÍCOLAS	(3.152,00)	(3.336,39)	(3.732,13)	(3.950,46)	(4.181,56)
MÃO DE OBRA CONTRATADA	(1.950,00)	(2.064,08)	(10.644,01)	(11.266,69)	(11.925,79)
DESPESAS VARIÁVEIS	**(900,00)**	**(952,65)**	**(1.949,53)**	**(2.063,58)**	**(2.184,30)**
FRETE			(605,03)	(640,42)	(677,89)
HORAS MÁQUINAS	(900,00)	(952,65)	(1.344,51)	(1.423,16)	(1.506,42)
DESPESAS TRIBUTÁRIAS			**(1.080,00)**	**(1.143,00)**	**(1.210,50)**
IMPOSTOS A PAGAR			(1.080,00)	(1.143,00)	(1.210,50)
DESPESAS FIXAS	**(63,76)**	**(67,49)**	**(71,44)**	**(75,62)**	**(80,04)**
ITR	(63,76)	(67,49)	(71,44)	(75,62)	(80,04)
DESPESAS FINANCEIRAS				**(52.399,09)**	**(29.682,31)**
TAXAS/ JUROS DE EMPRÉSTIMOS				(28.793,17)	(6.076,39)
AMORTIZAÇÃO DO EMPRÉSTIMO				(23.605,92)	(23.605,92)
FLUXO DO PERÍODO			**54.522,89**	**5.301,57**	**31.435,50**
SALDO ACUMULADO			**54.522,89**	**59.824,46**	**91.259,96**

Source: Producer data, prepared by the author (2020).

Because there is no harvest in the first two years, it is noticed that the cash balance for the period 2020/2021 and 2021/2020 are zero. The loan was made only for payment of the orchard, and therefore it is necessary to use the producer's own capital to cover the expenses and costs of the period.

Table 16 shows the continued projection of the vines' cash flow.

Table 16 - Vine Designed Cash Flow.

FLUXO DE CAIXA VIDEIRAS					
DESCRIÇÃO	**2026/2027**	**2027/2028**	**2028/2029**	**2029/2030**	**TOTAL**
ENTRADAS	**R$ 90.300,00**	**R$ 95.700,00**	**R$ 101.400,00**	**R$ 107.100,00**	**R$ 876.461,42**
RECEITA DE VENDAS	R$ 90.300,00	R$ 95.700,00	R$ 101.400,00	R$ 107.100,00	R$ 708.900,00
CAPITAL PRÓPRIO					
EMPRÉSTIMOS					R$ 167.561,42
SAÍDAS	**(49.705,87)**	**(50.033,54)**	**(50.436,15)**	**(50.913,34)**	**(568.230,48)**
INVESTIMENTO FIXO					(167.561,42)
IMPLANTAÇÃO - IVESTIMENTO INICIAL					(167.561,42)
CUSTOS DIRETOS	**(18.047,03)**	**(19.102,78)**	**(20.220,29)**	**(21.403,18)**	**(152.025,99)**
INSUMOS AGRÍCOLAS	(4.685,11)	(4.959,19)	(5.249,30)	(5.556,39)	(43.228,70)
MÃO DE OBRA CONTRATADA	(13.361,92)	(14.143,59)	(14.970,99)	(15.846,79)	(108.797,29)
DESPESAS VARIÁVEIS	**(2.447,34)**	**(2.590,51)**	**(2.742,05)**	**(2.902,47)**	**(21.044,52)**
FRETE	(759,52)	(803,95)	(850,98)	(900,77)	(5.956,10)
HORAS MÁQUINAS	(1.687,82)	(1.786,56)	(1.891,07)	(2.001,70)	(15.088,43)
DESPESAS TRIBUTÁRIAS	**(1.354,50)**	**(1.435,50)**	**(1.521,00)**	**(1.606,50)**	**(10.633,50)**
IMPOSTOS A PAGAR	(1.354,50)	(1.435,50)	(1.521,00)	(1.606,50)	(10.633,50)
DESPESAS FIXAS	**(89,68)**	**(94,93)**	**(100,48)**	**(106,36)**	**(834,51)**
ITR	(89,68)	(94,93)	(100,48)	(106,36)	(834,51)
DESPESAS FINANCEIRAS	**(27.767,32)**	**(26.809,83)**	**(25.852,33)**	**(24.894,84)**	**(216.130,53)**
TAXAS/ JUROS DE EMPRÉSTIMOS	(4.161,40)	(3.203,91)	(2.246,41)	(1.288,92)	(50.889,09)
AMORTIZAÇÃO DO EMPRÉSTIMO	(23.605,92)	(23.605,92)	(23.605,92)	(23.605,92)	(165.241,44)
FLUXO DO PERÍODO	**40.594,13**	**45.666,46**	**50.963,85**	**56.186,66**	**320.717,31**
SALDO ACUMULADO	**167.900,35**	**213.566,81**	**264.530,65**	**320.717,31**	**320.717,31**

Source: Producer data, prepared by the author (2020).

Tables 15 and 16 are representing the cash flow of the vines, from the third year on, a result is obtained other than zero, and it is possible to notice that in the following year the cash flow decreases, from R$ 54,522.89 to R$ 5,301.57, this is due to the first amortization of the loan.

The loan, totals in 10 years to pay, having the first three years of grace, and an interest of 4% per year. Because of this, the fourth year is the one with the least value in cash flow, because the three grace plots plus the fourth year portion are added, plus the interest generated in that time.

Tables 17 and 18 show the cash flow of the peach orchard, in the same way used in the vine, the orchard consists of portions of the loan to be amortized from the fourth year.

Table 17 - FLuxury Box Designed Peach Trees.

FLUXO DE CAIXA PESSEGUEIROS					
DESCRIÇÃO	**2020/2021**	**2021/2022**	**2022/2023**	**2023/2024**	**2024/2025**
ENTRADAS	**R$ 85.370,88**	**R$ 50.000,00**	**R$ 53.000,00**	**R$ 56.000,00**	**R$ 59.250,00**
RECEITA DE VENDAS		50.000,00	53.000,00	56.000,00	59.250,00
CAPITAL PRÓPRIO	R$ 6.034,26				
EMPRÉSTIMOS	R$ 79.336,62				
SAÍDAS	**(85.370,88)**	**(20.050,96)**	**(23.198,69)**	**(49.364,12)**	**(40.044,27)**
INVESTIMENTO FIXO	**(79.336,62)**				
IMPLANTAÇÃO - IVESTIMENTO INICIAL	(79.336,62)				
CUSTOS DIRETOS	**(4.670,50)**	**(12.935,40)**	**(15.665,74)**	**(16.582,19)**	**(17.552,25)**
INSUMOS AGRÍCOLAS	(3.620,50)	(3.832,30)	(6.030,11)	(6.382,87)	(6.756,27)
MÃO DE OBRA CONTRATADA	(1.050,00)	(9.103,10)	(9.635,63)	(10.199,32)	(10.795,98)
DESPESAS VARIÁVEIS	**(1.300,00)**	**(1.534,83)**	**(1.624,61)**	**(1.719,65)**	**(1.820,25)**
FRETE		(476,33)	(504,19)	(533,69)	(564,91)
HORAS MÁQUINAS	(1.300,00)	(1.058,50)	(1.120,42)	(1.185,97)	(1.255,35)
DESPESAS ADMINISTRATIVAS		**(4.763,25)**	**(5.041,90)**	**(5.336,85)**	**(5.649,06)**
SEGURO		(4.763,25)	(5.041,90)	(5.336,85)	(5.649,06)
DESPESAS TRIBUTÁRIAS		**(750,00)**	**(795,00)**	**(840,00)**	**(888,75)**
IMPOSTOS A PAGAR		(750,00)	(795,00)	(840,00)	(888,75)
DESPESAS FIXAS	**(63,76)**	**(67,49)**	**(71,44)**	**(75,62)**	**(80,04)**
ITR	(63,76)	(67,49)	(71,44)	(75,62)	(80,04)
DESPESAS FINANCEIRAS				**(24.809,81)**	**(14.053,92)**
TAXAS/ JUROS DE EMPRÉSTIMOS				(13.476,01)	(2.720,12)
AMORTIZAÇÃO DO EMPRÉSTIMO				(11.333,80)	(11.333,80)
FLUXO DO PERÍODO	-	**29.949,04**	**29.801,31**	**6.635,88**	**19.205,73**
SALDO ACUMULADO	-	**29.949,04**	**59.750,34**	**66.386,22**	**85.591,95**

Fonte: Dados do produtor, elaborado pelo autor (2020).

Because there is no harvest in the first year, it is perceived that the cash balance for the period 2020/2021 is zeroed. The loan was made only for payment of the orchard, and therefore it is necessary to use the producer's own capital to cover the expenses and costs of the period.

Table 18 shows the continued projection of the cash flow of peach trees.

Table 18 - FLuxury Box Designed Peach Trees.

FLUXO DE CAIXA PESSEGUEIROS					
DESCRIÇÃO	**2026/2027**	**2027/2028**	**2028/2029**	**2029/2030**	**TOTAL**
ENTRADAS	**R$ 66.500,00**	**R$ 70.250,00**	**R$ 74.500,00**	**R$ 78.750,00**	**R$ 656.370,88**
RECEITA DE VENDAS	66.500,00	70.250,00	74.500,00	78.750,00	R$ 571.000,00
CAPITAL PRÓPRIO					
EMPRÉSTIMOS					R$ 79.336,62
SAÍDAS	**(42.269,10)**	**(43.517,28)**	**(44.869,20)**	**(46.323,00)**	**(436.119,35)**
INVESTIMENTO FIXO					(79.336,62)
IMPLANTAÇÃO - IVESTIMENTO INICIAL					(79.336,62)
CUSTOS DIRETOS	**(19.665,93)**	**(20.816,39)**	**(22.034,14)**	**(23.323,14)**	**(171.824,74)**
INSUMOS AGRÍCOLAS	(7.569,88)	(8.384,92)	(8.481,46)	(8.977,62)	(67.187,45)
MÃO DE OBRA CONTRATADA	(12.096,05)	(12.431,47)	(13.552,69)	(14.345,52)	(104.637,29)
DESPESAS VARIÁVEIS	**(2.039,45)**	**(2.158,76)**	**(2.285,05)**	**(2.418,72)**	**(18.828,05)**
FRETE	(632,93)	(669,96)	(709,15)	(750,64)	(5.439,74)
HORAS MÁQUINAS	(1.406,52)	(1.488,80)	(1.575,89)	(1.668,08)	(13.388,31)
DESPESAS ADMINISTRATIVAS	**(6.329,33)**	**(6.699,60)**	**(7.091,52)**	**(7.506,38)**	**(54.397,41)**
SEGURO	(6.329,33)	(6.699,60)	(7.091,52)	(7.506,38)	(54.397,41)
DESPESAS TRIBUTÁRIAS	**(997,50)**	**(1.053,75)**	**(1.117,50)**	**(1.181,25)**	**(8.565,00)**
IMPOSTOS A PAGAR	(997,50)	(1.053,75)	(1.117,50)	(1.181,25)	(8.565,00)
DESPESAS FIXAS	**(89,68)**	**(94,93)**	**(100,48)**	**(106,36)**	**(834,51)**
ITR	(89,68)	(94,93)	(100,48)	(106,36)	(834,51)
DESPESAS FINANCEIRAS	**(13.147,21)**	**(12.693,86)**	**(12.240,51)**	**(11.787,15)**	**(102.333,02)**
TAXAS/ JUROS DE EMPRÉSTIMOS	(1.813,41)	(1.360,06)	(906,71)	(453,35)	(22.996,40)
AMORTIZAÇÃO DO EMPRÉSTIMO	(11.333,80)	(11.333,80)	(11.333,80)	(11.333,80)	(79.336,62)
FLUXO DO PERÍODO	**24.230,90**	**26.732,72**	**29.630,80**	**32.427,00**	**220.251,53**
SALDO ACUMULADO	**131.461,00**	**158.193,73**	**187.824,53**	**220.251,53**	**220.251,53**

FLUXO DE CAIXA PESSEGUEIROS					
DESCRIÇÃO	**2026/2027**	**2027/2028**	**2028/2029**	**2029/2030**	**TOTAL**
ENTRADAS	**R$ 66.500,00**	**R$ 70.250,00**	**R$ 74.500,00**	**R$ 78.750,00**	**R$ 656.370,88**
RECEITA DE VENDAS	66.500,00	70.250,00	74.500,00	78.750,00	R$ 571.000,00
CAPITAL PRÓPRIO					
EMPRÉSTIMOS					R$ 79.336,62
SAÍDAS	**(42.269,10)**	**(43.517,28)**	**(44.869,20)**	**(46.323,00)**	**(436.119,35)**
INVESTIMENTO FIXO					(79.336,62)
IMPLANTAÇÃO - IVESTIMENTO INICIAL					(79.336,62)
CUSTOS DIRETOS	**(19.665,93)**	**(20.816,39)**	**(22.034,14)**	**(23.323,14)**	**(171.824,74)**
INSUMOS AGRÍCOLAS	(7.569,88)	(8.384,92)	(8.481,46)	(8.977,62)	(67.187,45)
MÃO DE OBRA CONTRATADA	(12.096,05)	(12.431,47)	(13.552,69)	(14.345,52)	(104.637,29)
DESPESAS VARIÁVEIS	**(2.039,45)**	**(2.158,76)**	**(2.285,05)**	**(2.418,72)**	**(18.828,05)**
FRETE	(632,93)	(669,96)	(709,15)	(750,64)	(5.439,74)
HORAS MÁQUINAS	(1.406,52)	(1.488,80)	(1.575,89)	(1.668,08)	(13.388,31)
DESPESAS ADMINISTRATIVAS	**(6.329,33)**	**(6.699,60)**	**(7.091,52)**	**(7.506,38)**	**(54.397,41)**
SEGURO	(6.329,33)	(6.699,60)	(7.091,52)	(7.506,38)	(54.397,41)
DESPESAS TRIBUTÁRIAS	**(997,50)**	**(1.053,75)**	**(1.117,50)**	**(1.181,25)**	**(8.565,00)**
IMPOSTOS A PAGAR	(997,50)	(1.053,75)	(1.117,50)	(1.181,25)	(8.565,00)
DESPESAS FIXAS	**(89,68)**	**(94,93)**	**(100,48)**	**(106,36)**	**(834,51)**
ITR	(89,68)	(94,93)	(100,48)	(106,36)	(834,51)
DESPESAS FINANCEIRAS	**(13.147,21)**	**(12.693,86)**	**(12.240,51)**	**(11.787,15)**	**(102.333,02)**
TAXAS/ JUROS DE EMPRÉSTIMOS	(1.813,41)	(1.360,06)	(906,71)	(453,35)	(22.996,40)
AMORTIZAÇÃO DO EMPRÉSTIMO	(11.333,80)	(11.333,80)	(11.333,80)	(11.333,80)	(79.336,62)
FLUXO DO PERÍODO	**24.230,90**	**26.732,72**	**29.630,80**	**32.427,00**	**220.251,53**
SALDO ACUMULADO	**131.461,00**	**158.193,73**	**187.824,53**	**220.251,53**	**220.251,53**

Source: Producer data, prepared by the author (2020).

The cash flow of peach trees presented a flow of R$ 220,251.53. Being that in its first year, because it has not yet had a harvest, it did not present cash flow, and the producer will have to use its own savings to pay for the 2020/2021 harvest.

In the 2021/2022 and 2022/2023 harvest the cash balances are similar, but it is perceived that in the 2023/2024 harvest the cash balance is much less, as in the case of vines, the fourth year that is the 2023/2024 crop amortized the loan installments, and so the results are lower.

4.7 FINANCIAL VIABILITY INDICATORS

Investment analysis involves decisions of long-term resource applications, with the aim of providing adequate return to the owners of this capital. To make this decision, it involves a lot of dedication and commitment to make the investment.

There are several tools that help the investor make such an important decision for their business. The most common methods of evaluating investment projects are simple payback, net present value (LPV), and internal rate of return (IRR).

The net present value (LPV) ascertains in current values the financial gain, if it is greater than zero the project deserves to continue being analyzed, otherwise not. The net present value calculates the net monetary gain, already discounted all disbursements and all future entries, projecting for the current moment, using the expected rate of return. (BRUNI and FAMÁ, 2014).

Internal Rate of Return (IRR) can be deduced that irr is, the projected return on investment, that is, how much is estimated to gain (%) according to the defined cash budget. (Camloffski, 2014)

The simple Payback is defined by showing how long it will take for the disbursement corresponding to the investment to be recovered.

With the cash flow balances it is possible to analyze these indicators, and Table 19 presents the results obtained

Table 19 - Financial feasibility indicators.

INDICADORES	**UVA**	**PÊSSEGO**
TMA	10%	10%
VPL	R$ 9.644,66	R$ 46.450,29
TIR	10%	20%
PAYBACK	6,93	4,67

Source: Eworked by the author (2020)

It is in Table 19 that the internal rate of return of the project is 10% p.a. for the vine orchard and 20% p.a. for the peach orchard, these values represent the

maximum profitability that the project supports to match its inputs to the value of the investment.

Comparing the minimum rate of attractiveness (TMA) with the internal rate of return (IRR), the vines totaled the same value, which indicates that the producer wants a more attractive rate should review his investment. The peach orchard, on the other, exceeded the producer's expectations. The TMA used was 10%, the same value for both cultures.

The vine orchard presented a LPV of R$ 9,644.66 and a payback of 6.93 years, this means that with this attractiveness rate, the investment is feasible, because it will be paid before the age of 7.

The peach orchard had a NPV of R$ 46,450.29 and a payback of 4.67 years. This means that with this attractiveness rate, the investment is viable, because it will be paid before the age of 5.

Given these indicators the investment that will bring more return to the producer will be the implementation of the peach orchard, because it is the investment that will pay faster and will bring more return on investment.

V. FINAL CONSIDERATIONS

The study aims to compare two different cultures in order to assist small farmers in decision-making. Thus, an analysis was made of the data provided by the producers and based on this made the projection economic result generated by the sale of grape and peach in a rural property of Campestre da Serra - Rio Grande do Sul during the harvests of the period 2020 to 2030.

After the data were projected, it was concluded that the vine presented a Net Present Value (NPV) of R$ 9,644.66, and the peach orchard had a Net Present Value of R$ 46,450.29. These values represent the net monetary gain, already discounted all disbursements and all future entries, projecting to the current moment, being used the expected rate of return.

This study was dedicated to analyzing, the investments, costs, expenses and revenues that a rural producer has with the implantation of 1 hectare of fascine peach orchard compared with the implantation of 1 hectare of rose-hearted niagara vine and the financial generated result of the same crops.

To determine these data, an interview was made with producers in the region that grow peach fascine and niagara rose grape, which was obtained all the data necessary to determine the costs, expenses, revenues and also what is necessary for the investment.

With the data calculated, it was necessary to enter into contato com empresas da região para apuração dos valores de insumos agrícolas e base do investimento. Após levantamento pode-se apurar valores reais para o estudo.

The general objective of this study is to analyze the return on investment based on the economic result generated by the sale of grape and peach in a rural property of Campestre da Serra - Rio Grande do Sul during the 2020 to 2030 harvests.

For the initial investment of the vine orchard, the amount of R$ 167,561.42 will be required and the peach orchard will be r$ 79,336.62. The investment of the vine orchard doubles compared to the peach orchard, and due to this presented a lower result.

Based on the results presented by the cash flow, it was possible to check the rates of financial profitability, net present value (LPV), internal rate of return (IRR), simple payback and cash flow.

It was concluded that the crop that presented satisfactory results was the peach orchard, with an internal rate of return (IRR) of 20%, and a payback of 4.67 years, that is, that in less than 5 years the investment is paid.

Compared to the vine orchard, which presented a IrR of 10%, and a payback of 6.93 years, less than 7 years for the investment to pay.

Analyzing the cash flow, the vine has a cash balance much higher than the cash balance of peach trees, but this does not mean that it is more profitable, because its investment is very high compared to the peach orchard.

Through this study it was possible to make a survey of all expenses for the implantation of orchards, the costs incurred during the analyzed period and the results generated by the crops. The study shows the importance of accounting in a rural property, a fundamental tool for the manager and for decision making.

In view of the difficulty of measuring costs, expenses and results, this study can be used by rural producers who are seeking a better management of their orchards, being able to adapt with the reality of their property, thus assisting in decision making for new business. In addition, it is believed that it can serve as a basis for future academic studies and research in the area.

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