



Overview of the commercialization of flowers and ornamental plants in the county of Corrente – Piauí, Brazil.

Panorama da comercialização de flores e plantas ornamentais no município de Corrente – Piauí

GUIMARÃES, Márcio Magno Morgado⁽¹⁾; HONORATO, Jean Soares⁽²⁾; ARAÚJO, Gabriane Pereira⁽³⁾; RODRIGUES, Genilton Alves⁽⁴⁾; SILVA, João Manoel da⁽⁵⁾

⁽¹⁾ 0000-0002-7311-8662; Academic of the Agronomy course, Universidade Estadual do Piauí. Corrente, PI, Brazil. Email: marciomorgado.cead@gmail.com.

⁽²⁾ 0000-0002-2971-4010; Academic of the Agronomy course, Universidade Estadual do Piauí. Corrente, PI, Brazil. Email: jshonoratocampos@gmail.com.

⁽³⁾ 0000-0001-8620-6146; Academic of the Agronomy course, Universidade Estadual do Piauí. Corrente, PI, Brazil. Email: gabiaraujofederal@gmail.com.

⁽⁴⁾ 0000-0003-2926-3341; Academic of the Agronomy course, Universidade Estadual do Piauí. Corrente, PI, Brazil. Email: jenilton3788@gmail.com.

⁽⁵⁾ 0000-0002-7654-5475; PhD in Agricultural Biotechnology, Teacher of Universidade Estadual do Piauí. Corrente, PI, Brazil. Email: agrobio.jm@gmail.com.

The content expressed in this article is the sole responsibility of its authors.

ABSTRACT

The objective of this case study was to investigate the commercialization of flowers and ornamental plants in the city of Corrente, located in the extreme south of the state of Piauí. This study was born as a result of an activity developed in the Floriculture and Landscaping curricular component, in the Agronomy course. Therefore, a qualitative research and case study was developed. The information was collected through an interview, where the questions were previously formulated and structured by the students, based on the contents covered in the classroom. The information and data were analyzed and interpreted through content analysis, making it possible to understand the reality of the company. The investigation through the interview showed that the company is the only one that operates in the county and that it has a fixed customers with a variable profile of consumers. Given the variety of commercialized plants, there is a production chain, which is related to wholesale and retail sales, as well as the supply of inputs. Knowing that the productive chain of flowers and ornamental plants is in all Brazilian states, it is extremely important to apply technologies and studies in the area. This is evidenced through the fruit that was born with the Podcast developed in the discipline, which aroused interest in students of the agronomy course, since they had not yet had contact with this agricultural branch. These results provides subsidies for the development of more research related to the economic importance of floriculture.

RESUMO

Por meio desse estudo de caso junto a uma empresa do ramo de floricultura, objetivou-se analisar o panorama de comercialização de flores e plantas ornamentais no município de Corrente, localizado no extremo sul do Estado do Piauí. O estudo nasceu como fruto de uma atividade (*podcast*) desenvolvida no componente curricular Floricultura e Paisagismo, do curso de Agronomia da Universidade Estadual do Piauí. Para tanto, desenvolveu-se uma pesquisa de cunho qualitativo e estudo de caso. As informações foram coletadas por meio de entrevista, em que as perguntas foram previamente formuladas e estruturadas pelos estudantes, baseando-se nos conteúdos abordados em sala de aula. As informações e os dados foram analisados e interpretados por meio de análise de conteúdo, sendo possível compreender a realidade da empresa analisada. Os resultados mostraram que a empresa é a única que atua no município e que possui uma clientela fixa, mas com perfil variável. Dada a variedade de plantas comercializadas, nota-se a existência de uma cadeia produtiva, a qual está relacionada à venda em atacado e varejo, bem como fornecimento de insumos. Sabendo-se que a cadeia produtiva de flores e plantas ornamentais está em todos os estados brasileiros, é extremamente importante a aplicação de tecnologias e estudos na área. Isso se evidencia por meio do *Podcast* desenvolvido na disciplina, o qual despertou interesse nos estudantes do curso de agronomia, uma vez que ainda não haviam tido contato com esse ramo agrícola. Os resultados proporcionam subsídios para o desenvolvimento de mais pesquisas relacionadas à importância econômica da floricultura.

INFORMAÇÕES DO ARTIGO

Histórico do Artigo:

Submission: 21/02/2022

Approved: 03/09/2022

Publication: 10/01/2023



Keywords:

Floriculture, production chain, landscaping, human relations

Palavras-Chave:

Floricultura, cadeia produtiva, paisagismo, relações humanas

Introduction

Floriculture is a branch of agribusiness that covers a great diversity of commercial products, such as cut flowers, pot flowers, foliage and plants for landscaping (trees, shrubs and forages), with visual and phytosanitary aesthetic quality. It comprises an activity of high profitability and with great consumption potential in Brazil, showing an increase in the volume of financial transactions year by year (Menegaes, 2013). In this sense, ornamental plants are part of an economic sector that grows constantly, because they are part of the day-to-day life of Brazilians, with versions of colors, sizes and prices, depending on financial and cultural conditions. Commercial floriculture, as a professional and business activity of production, trade and distribution of flowers and plants with ornamental purpose, represents one of the most promising segments of contemporary Brazilian agribusiness (Junqueira & Peetz, 2011).

The growth of this activity is in the order of 8% to 10% per year in the quantities produced and from 12% to 15% in the values marketed (Menegaes et al., 2015). According to Anefalos et al. (2010), these indices are above the average levels of growth of the national Gross Domestic Product (GDP), which prove the high possibility of activity growth in the country. According to more recent data, published by the Brazilian Institute of Floriculture (Ibraflor, 2020), the branch showed a growth of 9.6% compared to previous years, demonstrating resistance and market growth even with the conditions and losses caused by the COVID-19 pandemic. Therefore, this agricultural segment demonstrates potential for expansion in the country compared to previous years (CEPEA, 2022).

In Brazil, the retail of flowers and ornamental plants consists of a diverse set of business formats and enterprises, formal and informal, micro, small, medium or large, present in almost all cities (Menegaes et al., 2015). This retail is presented as such due to the edaphoclimatic diversification of the country, which allows the occurrence of the cultivation of flowers and ornamental plants in all states of the Federation for agricultural purposes. Although it is mostly an economic activity, with direct and indirect effects on the market, human relations are also important, as they lead to the search for ornamental plants for residential environments, where these ornamental plants have different uses and meanings, as elucidated by Silva et al. (2021). In addition, this agricultural sector provides a series of jobs and income throughout the country, as well as demands a certain level of technology in its productive areas, especially when protected crops are needed.

The floriculture itself, therefore, is the cultivation of ornamental plants, cut plants (flowers and foliage), potted plants, floriferous or not. It is also considered the production of seeds, bulbs, palm trees, shrubs, tree seedlings and other species for cultivation in gardens (Junqueira & Peetz, 2002). In this context, it should be noted that the production of flowers and ornamental plants is driven by the landscaping sector. In this regard, Lange and Arend (2012) say that although the economic exploitation of floriculture in Brazil is recent, in recent

years the sector has shown an increasing demand, both domestically and abroad. Thus, it is important to evaluate this market, which points to a great potential of this sector. However, this agro-industrial system needs some adjustments for better development of the activity (Lange & Arend, 2012). The flower market is an important cog in the Brazilian economy, responsible for 199,100 direct jobs, of which 78,700 (39.53%) related to production, 8,400 (4.22%) to distribution, 105,500 (53%) to retail and 6,500 (3.26%) in other functions, mostly as support (Ibraflor, 2021).

In this perspective, in the search to investigate the flower market in the county of Corrente - PI, through the observation of certified trade (the one that presents all regulations for commercialization) (BRASIL, 2006), the objective was to analyze the commercialization panorama of flowers and ornamental plants in the mentioned county, from a case study in a local company. It is worth mentioning that the research is born from the development of a Podcast for the curricular component Floriculture and Landscaping, which provided contact with the theme worked on in this research.

Methodological Procedures

Scientific research aims to accumulate and elucidate certain facts for social development in several areas of knowledge. Selltiz et al. (1975) state that this seeks to discover answers to certain questions through the application of scientific methods. These methods are developed and applied according to the object and the universe of study. Thus, as a scientific method, we understand the set of steps systematized in a rational way, allowing to raise valid knowledge and based on scientific evidence. According to Marconi and Lakatos (2020), the scientific method allows guiding the path to be followed by the researcher, finding errors, assisting in decision making, selecting appropriate concepts, techniques and data, as well as providing the correct interpretation and presentation of the results found.

For the execution and development of a study it is necessary to determine the theoretical-methodological approach to be used. Qualitative and quantitative approaches often use different methods, forms and research objectives. Qualitative, on the one hand, comprises a set of interpretative techniques that seek to describe and decode certain signs. Qualitative research, in turn, contributes to a better understanding of phenomena using rational and intuitive methods. According to Gil (2019, p. 78), the case study “[...] is a research modality widely used in the social sciences.” The research presented here consists of a study of one or more cases in such a way as to allow broad and detailed knowledge.

Regarding the instruments used in data collection, the research used the application of a questionnaire and interview in a duly registered flower shop in the county of Corrente – located in the extreme south of Piau , which has an estimated population of 25,407 inhabitants (IBGE, 2021). According to Gil (2019), questionnaires and interviews allow critical results in relation to objectivity, because the items may present different meanings among the subjects.

As mentioned earlier, the interview took place from the Podcast developed during the discipline. So, according to Silva Júnior et al. (2020), it is important to emphasize that the Podcast is a teaching-learning tool and can be applied as a pedagogical tool, providing content propagation, favoring interaction, orality, sharpening creativity, besides fostering the autonomy and confidence of students.

The interview, conducted with the company's management, took place through a structured script of questions, namely: 1) Are the flowers sold in current? 1.1) Where? 2) Are the commercialized flowers all ornamental? 3) Do consumers of chain flowers have a habit of buying flowers frequently? 4) What are the most commercialized types of flowers? 5) Do you know the destination of the commercialized flowers? 6) Do flower consumers come back often to buy again? 7) How do you keep the flowers in the environment? 8) What recommendations do you make to customers after buying a flower? 9) Do you receive many complaints about the flowers marketed? 10) What are the most common problems in flower production? 11) What strategies are used in periods of low demand? 12) Does the floriculture branch have good profitability? 13) What is the profile of consumers of chain flowers? 14) What means of disclosure are used? 15) What is more important in a flower shop? It is worth mentioning that all questions were formulated by the authors themselves.

The answers were later analyzed and interpreted, and content analysis proposed by Bardin (2011) was then applied as an evaluative method. This analysis technique allows the study of qualitative data, walking in three fundamental stages. At first, it began with the reading of the material and the choice of the reports that gave structure to the research corpus. Subsequently, it was followed for the codification and categorization of the corpus content. Finally, the interpretation of the results was undertaken, through the inference of the message (result) and its receivers.

Results and Discussion

When analyzing the answers given by the company, during an interview with the Podcast, we identified a business structure compatible with the level of demand of consumers, in the case of appropriate facilities, which tend to offer an environment not only pleasant, but that stimulates the purchase of products. Noting this, it was observed that the flower market in Corrente is increasingly attractive, through the presentation of the questionnaire made to the floriculture.

Starting from the first question, it is understood that the flowers sold in the company located in the county of Corrente - PI are not produced there, denoting the existence of a production chain. Daudt (2002) describes this scenario relating to two facilitating agents: retailers and wholesalers. Wholesalers must concentrate the products of the industry of inums and producers from various locations in the state and the country, keeping them for a period

and organizing them in batches and orders. Thus, like any other agricultural sector, floriculture moves a large chain that drives various segments and sectors.

For being an agro-industrial complex in the Brazilian flower and ornamental plant business, there are different distribution systems which involve several actors. There are some in which the final consumer directly acquires the product from the farm, since it has direct communication with the producer. At the other end, there are those products that went through 3 and 5 more actors (producer, cooperative, wholesaler and retailer) before being bought by the final consumer (Silva, 2012).

Following the results of the interview, it is observed that the establishment adopts only the trade of flowers and ornamental plants, and no other diversifications that eventually occur in these establishments are found, such as plants of medicinal or aromatic values. These types of plants have generally been marketed in smaller companies or markets and supply centers. Currently, both in the poorest regions of the country and in large Brazilian cities, medicinal plants are marketed in free fairs, popular markets and found in residential backyards (Tresvenzol et al., 2006). Silva et al. (2021) also say that this type of plant is still obtained through exchanges and donations, which explains the absence of this segment in the case under study.

The return of customers for the purchase/consumption of flowers and ornamental plants highlights the importance of the company and the sector in the county. This fidelity, in addition to the unique existence of this floriculture, is also a reflection of the man-nature relations, as exposed by Silva et al. (2021), where the authors elucidate this relationship. The presence of flowers and ornamental plants in the residences is related to this relationship, also aligned with the aesthetic and sensory values of consumers in the sector.

According to an interview with the company, there is a diversification in the commercialized plants, ranging from palm trees (arecaceae), “cactáceas” and flowers in general, including roses, Anturios, Orchids and various other species and varieties with ornamental and landscape values. Menegaes et al. (2015) discussing the retail market show that this market is diverse in the trade of cutting plants (leaves and foliage) and potted plants with diversification in their dimensions. It is notepoint that, for the present study, the market does not have competitiveness in the county due to the absence of competing companies, attributing to this fact also a certain comfort in the commercialization, especially given to the loyal customers.

The destination of commercialized flowers is predominantly for residential cultivation, being another part for ornamentation of churches and/or social events. These forms of use are similar to that reported by Silva et al. (2021), when the authors discuss the use and values of plants, where the use at home has grown, especially due to the changes resulting from the pandemic (COVID-19) and the new social configurations. In addition, the return and loyalty of customers stands out, the profile of flower consumers by the company is diversified, varying

between young people and adults, as well as the older ones, similar to what Silva et al. (2021) said. Thus, the profile of flower consumption has tended to change over the years.

As for conservation, maintenance and recommendations after the purchase/acquisition of plants in the company's environment, it is perceived the need for greater technical assistance to the detriment of the needs of each type of plant. In this context, it was visualized that there is only care in providing water and light, according to the basic needs of the commercialized plants. No care or observation regarding phytosanitary and nutritional aspects was mentioned. The market of flowers and ornamental plants can be hampered by the lack of management in the use of specific cultural practices and phytosanitary problems, because taking into account these can be propagated vegetatively, this may occur indiscriminate exchange, especially with the absence of the necessary quarantine, providing the incidence and dissemination of pests in cultivated areas (Specht et al., 2011).

Regarding complaints about post-acquisition plants, the reports of the clients reaffirm what was discussed, since there is no professional Agronomist Engineer working, and the information is passed on with basic criteria of care.

When it comes to the production of flowers, the soil is reported as a primordial factor. According to Araújo et al. (2011) due to the intense use of land and the expansion of agricultural production, there is a growing concern about soil losses in the state of Piauí, which is one of the last agricultural frontiers in Brazil. Accelerated erosion, resulting from anthropic action, which consists of the process of detachment and dragging of soil particles, can be considered as the main cause of degradation of agricultural land (Araújo et al., 2011).

Among the strategies used to mitigate low sales in periods of few demands, the company reports the use of expansion of disclosure and promotions with reduction of values, for example, as a mechanism to attract customers. According to Torres (2015), in today's business world, Information and Communication Technologies (ICT) are fundamental to the development and delivery of a range of products and services. They measure a growing fraction of interactions between consumers, within companies, between companies and their customers, and allow participants to influence the design of synthesized spaces in which interactions occur (Torres, 2015), thus being a fundamental tool to mitigate losses of sales losses, as well as attribute value to the company.

In this respect, it is worth highlighting the means of dissemination used by the company, where radio, sound car and digital social networks are reported. Silva et al. (2021) elucidate that the use of digital social networks for the dissemination and sale of products can be seen that the sum of the company's efforts through these platforms minimizes the negative impacts arising from the pandemic and contributes to the generation of income and maintenance of workers.

On the profitability of the floriculture, it is important to point out that this segment presents a constant growth, according to data from 2021 from Ibraflor, although it is lower to the detriment of other agricultural sectors, still has growth over the years.

The GDP of the Floriculture and Ornamental Plants Production Chain was R\$ 4.51 billion in 2014, taking into account all parts of production, consumption, distribution, trade and exports. The financial movement by all links in the production chain reached R\$ 10.22 billion. However, more than 60% of the movements are in the links considered after the farm (production unit) (CEPEA, 2017). The financial movement within the production units accounts for 20% of the amount moved. The rest of the moved percentage includes suppliers of insum, facilitating agents and exports (Ferreira & Belo, 2015; SEBRAE, 2015).

Lastly, the company highlights the importance of care as the main (most important) factor in a flower shop. This observation makes an alignment with what has been previously described about customer loyalty, where social relationships are evidenced and highlighted. This aspect makes it important to understand that interpersonal development is an important point in all sectors and economically affect the company.

Therefore, the relationships between people present a biopsychosocial character (because the human being is an integral being composed of biological, psychological and social levels, being analyzed holistically) in the important occupational context, since as it refers to what implies changes in the behaviors of individuals, in order to enable a minimization of possible damage to the health and performance of workers (França, 2008; Fonseca et al., 2013), consequently attributing values to the company.

Final Considerations

The flower production chain is something dynamic and still has some limitations when equating to other branches of agribusiness, making important the development of local studies in order to elucidate how these markets work, what their limitations and what their strengths are to understand how best to develop.

Because it is a segment that requires product quality, differentiated service, dissemination, and, therefore, constant innovation to process insertion and expansion in a competitive market in order to meet consumer needs and preferences, marketing strategies are indispensable in the sense that not only markets are maintained, but new spaces are conquered.

The case study provided an immersion and, consequently, a greater understanding of the flower sector of the extreme south of Piauí, also demonstrating the need for investment in human and financial resources in this agricultural area. These investments are the first step towards encouraging the production chain and fostering new producers.

Knowing that the production chain of flowers and ornamental plants is in all Brazilian states, it is extremely important application of technologies and studies in the area. This is evidenced through the start that was born with the Podcast developed in the discipline, which aroused interest in the students of the Agronomy course, since they had not yet had contact with this agricultural branch.

The floriculture acts as the most attractive place in the intermediation between producer and consumer. However mentioned, we emphasize the departure of flowers in the region and their impacts within the society of Corrente - PI. Therefore, the need for greater valorization of this horticultural branch is highlighted. Moreover, it is important to develop more studies focused on the sector, since the knowledge developed in the academy provides market development, as well as local and territorial development, especially when exploring other fields such as propagation and cultivation of endemic species, as well as edible flowers, such as those currently disseminated as Unconventional Food Plants.

REFERENCES

- Anefalos, L. C., Tombolato, A. F. C., & Ricordi, A. (2010). Panorama atual e perspectivas futuras da cadeia produtiva de flores tropicais: o caso do antúrio. *Revista Brasileira de Horticultura Ornamental*, 16(1), p. 107-111. <https://doi.org/10.14295/rbho.v16i1.518>.
- Araújo, F. S., Salviano, A. A. C., & Holanda Neto, M. R. (2011). Estimativa da Erodibilidade de Latossolos do Piauí. *Scientia Plena*, 7(10), 100201. <https://www.scientiaplenua.org.br/sp/article/view/358>
- Bardin, L. (2011). Análise de conteúdo. (4^a ed.). Edições70.
- Centro de Estudos Avançados em Economia Aplicada (Cepea). (2022). PIB da cadeia de Flores e Plantas Ornamentais brasileira: ano-base 2017. <https://www.cepea.esalq.usp.br/br/pib-da-cadeia-de-flores-e-plantas-ornamentais.aspx>
- Daudt, R. H. S. (2002). Censo da produção de flores e plantas ornamentais no Rio Grande do Sul/Brasil na virada do milênio. [Dissertação de Mestrado, Universidade Federal do Rio Grande do Sul]. <https://lume.ufrgs.br/handle/10183/3411>
- Ferreira, R. N. D., Belo, M. (2015). Cadeia produtiva da floricultura no Estado do Rio de Janeiro. Nova Friburgo, RJ: SEAPE/EMATER-RIO. Secretaria de Estado de Agricultura e Pecuária/ Empresa de Assistência Técnica e Extensão Rural no Estado do Rio de Janeiro, 2015.

- Fonseca, I. S. S., Araújo, T. M., Bernardes, K. O., & Amado, N. (2013). Apoio social e satisfação no trabalho em funcionários de uma empresa de petróleo. *Psicologia para América Latina*, (25), 43-56. pepsic.bvsalud.org/scielo.php?script=sci_arttext&pid=S1870-350X2013000200004
- Gil, A. C. (2019). Métodos e técnicas de pesquisa social (5a ed.). Atlas.
- Instituto Brasileiro de Floricultura – Ibraflor. (2021). Números do Setor. <https://www.ibraflor.com.br/numeros-setor>.
- Instituto Brasileiro de Geografia e Estatística. (2021). Cidades – Corrente-PI. <https://cidades.ibge.gov.br/brasil/pi/corrente/panorama>
- Junqueira, A. H. & Peetz, M. S. (2011). Panorama socioeconômico da floricultura no Brasil. *Revista Brasileira de Horticultura Ornamental*, 17(2), p. 101-108. <https://doi.org/10.14295/rbho.v17i2.704>
- Lange, A. K., & Arend, S. C. (2012). Plantas Ornamentais Para Paisagismo: Estudo de Caso em Municípios do Rio Grande do Sul – Brasil. *Informe Gepec*, 16(2), p. 115-130, jul./dez. <https://doi.org/10.48075/igepec.v16i2.4760>
- Marconi, M. A., & Lakatos, E. (2020). Fundamentos de metodologia científica (8a ed.). Atlas.
- Menegaes, J. F. (2013). Acompanhamento das atividades da empresa ProClone – Holambra, SP - produção de mudas e matrizes de laboratório. 2013, 32f. [Relatório de Estágio Curso de Agronomia, Universidade Federal de Santa Maria]. https://www.ufsm.br/unidades-universitarias/ccr/wp-content/uploads/sites/370/2019/10/InformeTecnico_41_2013.pdf
- Menegaes, J. F., Backes, F. A. A. L., Bellé, R. A., & Backes, R. L. (2015). Diagnóstico do mercado varejista de flores de Santa Maria, RS. *Ornamental Horticulture*, 21(3), p. 291-298. <https://doi.org/10.14295/oh.v21i3.629>
- Ministério da Agricultura, Pecuária e Abastecimento. (2006). *Manual de Procedimentos Operacionais da Vigilância Agropecuária Internacional*. Instrução Normativa nº 36 de 10/11/2006.
- Serviço Brasileiro de Apoio às Micro e Pequenas Empresas (2015). Flores e plantas ornamentais do Brasil – volume 1. [http://www.bibliotecas.sebrae.com.br/chronus/ARQUIVOS_CHRONUS/bds/bds.nsf/7ed114f4eace9ea970dadf63bc8baa29/\\$File/5518.pdf](http://www.bibliotecas.sebrae.com.br/chronus/ARQUIVOS_CHRONUS/bds/bds.nsf/7ed114f4eace9ea970dadf63bc8baa29/$File/5518.pdf)
- Silva Júnior, E. A., Silva, C. F. P., & Bertoldo, S. R. F. (2020). Educação em tempos de pandemia: o uso da ferramenta podcast como estratégia de ensino. *Tecnia*, 5(2), p. 31-51. <http://revistas.ifg.edu.br/tecnia/article/view/815>
- Silva, F. M., Silva, A. P. P., & Suárez, L. A. B. (2021). O uso das redes sociais como estratégia de vendas em tempos de pandemia: estudo de caso. *Bioethics Archives, Management and Health*, 1(1), 52-63. <https://biamah.com.br/index.php/biomah/article/view/5>
- Silva, J. M., Costa, J. H. Q., Nascimento, S. P. G., Santos, T. M. C., Albuquerque, C. F. (2021). Compreensão, Uso e Cultivo de Plantas em Ambientes Residenciais Urbanos em Alagoas,

Brasil. *Brazilian Journal of Agroecology and Sustainability*, 3(1), 31-46.

<https://doi.org/10.52719/bjas.v3i1.3923>

Silva, L. (2012). Caracterização do setor atacadista de flores e plantas ornamentais no Brasil.

[Dissertação de Mestrado, Universidade Federal de Lavras].

<http://repositorio.ufla.br/jspui/handle/1/445>

Specht, M. J. S., Borges, L. R., & Paluch, M. (2011). Borboletas associadas à *Heliconia velloziana* L.

Emygd. (Zingiberales: Heliconiaceae) no Estado de Pernambuco. *Revista Biociências*, 17(1), p.

27-32. <http://revistas.unitau.br/ojs/index.php/biociencias/article/view/1235>

Torres, D. F. U. (2015). Análise prospectiva para o setor atacadista de flores e plantas ornamentais no

Brasil e suas tecnologias da informação e comunicação. [Dissertação de Mestrado]. Centro de Estudos e Pesquisas em Agronegócios da UFRGS.

<https://lume.ufrgs.br/handle/10183/158929>

Tresvenzol, L. M., Paula, J. R., Ricardo, A. F., Ferreira, H. D., & Zatta, D. T. (2006). Estudo sobre o

comércio informal de plantas medicinais em Goiânia e cidades vizinhas. *Revista Eletrônica de*

Farmácia, 3(1), p. 23-28. <https://www.revistas.ufg.br/REF/article/view/2070/2013>