ESTABLISHMENT OF THE PLANT NURSERY OF MEDICINAL PLANTS AND PHYTOCHEMICAL CHARACTERIZATION OF MEDICINAL PLANTS

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Abstract –*The present work was proposed aiming at the establishment of a garden of medicinal plants with the species found in the region. An investigative questionnaire was applied in the Centro Federal de Educação Tecnológica de Minas Gerais/CEFET-MG/Varginha. From the results obtained, it follows that the most utilized plants were: Melissa, Mentha piperita, Pimpinella anisus, Rosmarinus, Mentha pulegium, Zingiber, Bidens pilosus, Phyllantus niruri and Plantago major. The leaves of the most utilized species were: Rosmarinus (28%) and Mentha pulegium(13%). As criteria to the selection, plants of easy localization in the region were utilized for the treatment of most taken on diseases, conferring them the scores 3, 2 and 1. The plants which stood out were: Zingiber, Bidens and Phyllantus niruri (10%) of acceptance and Plantago major with (8%). Afterwards, establishing a virtual garden, a sensor system with readings of temperature, humidity, annual luminosity and the phytochemical study was intended to establish.*

Index Terms — Medicinal plants, Nursery of medicinal plants, Virtual plant nursery.

INTRODUCTION

Medicinal plants have been utilized by mankind since remote times. All the biomas furnish medicinal plants to mankind. The cerrado (savannah-like vegetation) contributed with this furnishing, in spite of the difficulties found in acquiring these plants and of the little scientific knowledge diffused in the community, that is, many do not manage to identify which plants are of this bioma. So, this work intends to identify the medicinal plants most utilized by the urban population of the town of Varginha, how and where these plants are searched and the identification as to the origin of the process of utilization.

MATERIAL AND METHODS

The work is being conducted in CENTRO FEDERAL DE EDUCAÇÃO TECNOLÓGICA DE MINAS GERAIS Campus VIII, in the town of Varginha, southern region of the state of Minas Gerais. The town is inserted in the cerrado bioma and its characteristic vegetation presents a diversity of medicinal flora. The data collection was done by means of the application of questionnaire with a sampling of 50 citizens, applied randomly in the community of CEFET-MG (students and family members) on campus VIII of Varginha. Later, the data were tabulated and presented in the form of plots which were studied, serving as a basis for the choice of some plans and establishment of the plant nursery.

RESULTS AND DISCUSSION

Investigating the data obtained through the questionnaires applied in CEFET – MG, campus VIII Varginha, it is found that the relevant medicinal plans in the region present expressive percents listed in the plots a seguir. Figure 1 corresponds to the plot related to the 10 plants most utilized by the interviewed persons, where Erva Cidreira (*Melissa officinalis)* is the plants with the highest utilization rate (18%) with 20 citations, followed by 16% of Hortelã (*Mentha piperita*) with 18 citation, and 11% of Erva Doce (*Pimpinella anisus*) with 12 citations.

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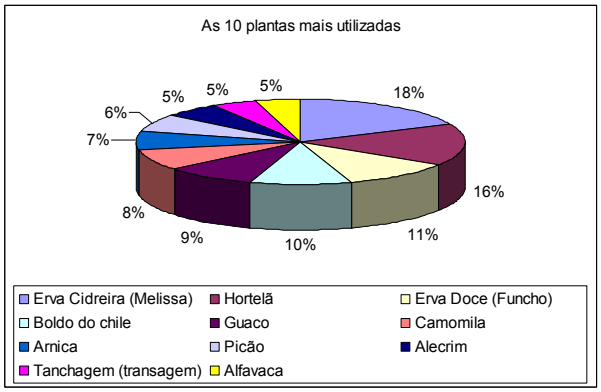
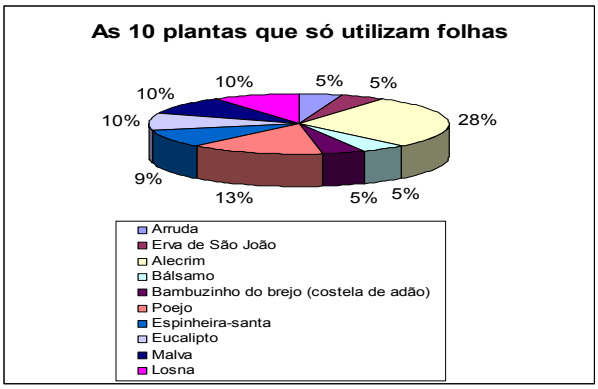
FIGURE. 1
Plot for evaluation of the ten most utilized plants



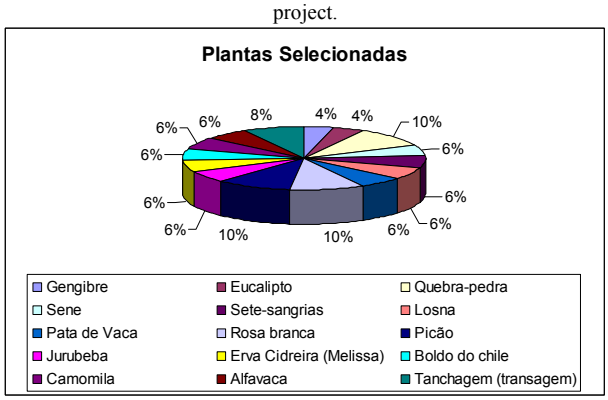
Another aspect studied through the questionnaires were the ten plants which utilize only then leaves (Figure 2), due to the fact them possessing easier management. Out of those plants, Rosemary (*Rosmarinus officinalis)* with 28% of persons utilizing its leaves and, directly after that, Pennyroyal (*Mentha pulegium)* with 13%, stand out.

FIGURE. 2
Plot of the ten plants the leaves of which were utilized for medicinal purposes



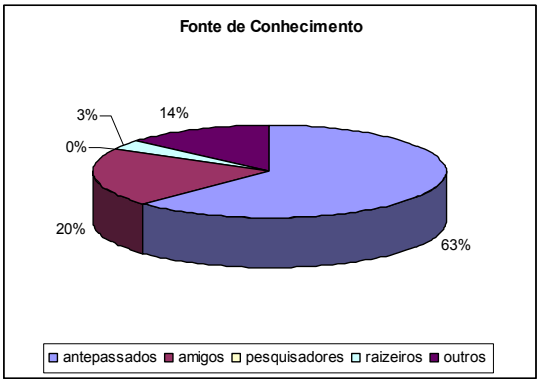
Out of all the plants selected by the interviewed persons, the students involved in the project chose fifteen plants which interested them the most ascribing them the following criteria: treatment of most taken diseases, plants of easy localization in the region and the most utilized plants; granting them weights 3, 2 and 1, respectively (Figure 3). The plants of greatest preference of the students were Gengibre (*Zingiber officinale)*, o Picão (*Bidens pilosus*) and Quebra-Pedra (*Phyllantus niruri*), all with 10% of acceptance related to the soma of the weights, added of Plantago (*Plantago major)* with 8% of acceptance.

FIGURE. 3
Plot of the plants selected through criteria established by the students of the project.



According to the results seen in Figure 4, among the 50 interviewed persons, 63% reported to know the use through some member of the family, concluding that use of medicinal plants is closely linked to household culture and folk use. From the 37% remaining persons, 20% corresponds to the friends, 14% to others, 3% to the root collectors and there were no reports of plants with proved and utilized scientific research, that is, only with empirical knowledge.

FIGURE. 4
Plot of the source of knowledge obtained by the interviewed persons.



CONCLUSIONS

From the plots made and by utilizing the criteria adopted by the students involved in the research project in issue, it is intended to establish a nursery of medicinal plants with the following plants: Erva Cidreira (*Melissa officinalis),* Hortelã (*Mentha piperita*), Erva Doce (*Pimpinella anisus*), Alecrim (*Rosmarinus officinalis)*, Poejo (*Mentha pulegium)*, Ginger (*Zingiber officinale)*, Broom

Stick (*Bidens pilosus*) and Quebra-Pedra (*Phyllantus niruri*), added of Plantago (*Plantago major).*

The selection of the medicinal plants reported in the work represents the cerrado region which constitutes the region of Varginha, in addition to being an expressivity of the utilization as drug therapy action by the community associated to CEFET – MG of Varginha which will later be analyzed phytochemically.

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