

SISTEMA DE IRRIGAÇÃO RECICLADO E ADUBAÇÃO ALTERNATIVA NA PRODUÇÃO DE HORTALIÇAS

Prof. Antonio Marcos Duarte Mota. marquinhosagroproduzir@gmail.com
EEM Padre José Augusto Régis Alves.

Participantes: Dieimisson Lemos; Joelma Gomes de Souza; Lucas Calisto Diogenes

RESUMO

A preocupação com questões ambientais e qualidade de vida, conduz os consumidores a buscarem alternativas de alimentos orgânicos que apresentam alto valor nutritivo. É necessário buscar alternativas para continuar produzindo esses alimentos, e um método bastante utilizado nessa região e o uso de irrigação, principalmente sistemas de baixo custo que visa irrigar cultivos com baixo custo e considerada eficiência. Chegou-se a um reaproveitamento de 100% dos restos de comida e produção de hortaliças de qualidade para utilização na merenda escolar.

Palavras-chave: Sustentabilidade, Alimentos de qualidade e baixo custo.

RECYCLED IRRIGATION SYSTEM AND ALTERNATIVE FERTILIZATION IN VEGETABLES PRODUCTION

ABSTRACT

Concern about environmental issues and quality of life leads consumers to seek alternatives to organic foods that have high nutritional value. It is necessary to look for alternatives to continue producing these foods, and a method widely used in this region and the use of irrigation, especially low cost systems that aim to irrigate crops with low cost and considered efficiency. Reutilization of 100% of the remains of food and production of quality vegetables for use in school meals has been achieved.

Keywords: Sustainability, Quality food and low cost.

INTRODUCTION

Vegetables are a group of plants that come in an incredible variety of shapes, sizes, colors and flavors. And they are products of high nutritional value for the body, with the capacity to produce large amounts of food per unit of area (AMORIM, 1987).

Lettuce (*Lactuca sativa* L.) is a vegetable worldwide known, and because it is consumed raw, it preserves its nutritional properties better, presents a good source of vitamins, minerals and low energy value (HAMASAKI et al., 2000).

The concern with environmental issues and quality of life, leads consumers to seek alternatives to organic foods that have high nutritional value and absence of residues of synthetic products such as mineral fertilizers and chemical pesticides, In this context, the cultivation of vegetables with organic fertilizers has increased , mainly due to the high

costs of mineral fertilizers and the beneficial effects of organic matter in soils intensively cultivated with conventional methods (ASANO, 1984; RODRIGUES, 1990).

Food production in the semi-arid region of Brazil faces some problems which force farmers to find alternatives that make this production viable, and one of the main obstacles to the production of vegetables in general is the lack of water, since this region and for nature poor in precipitation and potentially rich in evapotranspiration, which compromises the production mainly of leafy crops that are rich in water and that easily lose this to the atmosphere in the form of transpiration, in view of this, it is necessary to seek alternatives to continue producing these foods, and a method widely used in this region and the use of irrigation, mainly low-cost systems that aim to irrigate crops with low cost and considered efficiency according to Coelho, 2014 When due care is taken in the use of water, irrigation systems assembled from low cost have the same effects of conventional systems on crop production short-cycle and perennial in family farming areas.

MAIN GOAL

Develop an irrigation system using waste water pumped by a freezer motor, adapted for pumping water and using the school's organic waste as an alternative fertilizer.

Specific objectives

Reuse wastewater from the school; use food scraps such as eggshells rich in potassium and calcium, bone scraps to produce bone meal and food scraps to produce organic compost and coffee powder; Produce vegetables with low production cost; present the school community and the local community with a cheap, ecological and sustainable system of food production.

METHODOLOGY

The project is being developed by students of the second series of high school at the referred school.

Initially, a selection and separation of the garbage produced at the school will be carried out, separating the bones from lunch to make bone meal, eggshells to make eggshell flour, coffee powder and food scraps to make organic compost.

The system starts from the water box that collects residual water from the school's drinking fountains, then it will be channeled to a 100mm diameter PVC pipe equipped with 10mm perforations where the lettuce seedlings and alternative fertilizers will be placed: coffee powder, bone meal and eggshell flour, after passing through the PVC pipe, where the lettuce plants will grow under a hydroponic system.

The water will be pumped via a freezer motor adapted for irrigation using irrigation hoses under the beds, which will be of the economic model made on plastic canvas in a way that prevents the loss of water by percolation along the soil profile and makes the water go up to the surface of the bed where the roots of the plants are by mass flow.

RESULTADOS.

O reaproveitamento total da água residual dos bebedouros, reaproveitamento de 100% dos restos de comida e produção de hortaliças de qualidade para utilização na merenda escolar.

SOCIAL RELEVANCE OF THE PROPOSAL

Activity that encourages school students not to waste food, and enables students to become autonomous in the production of healthy foods and to awaken other students to the world of research, as well as encouraging them to discover new projects to be developed at school.

IMPACT ON THE DISSEMINATION OF KNOWLEDGE AT SCHOOL

Innovation of sustainable technologies for food production in the semi-arid region of the Northeast and reduction of the amount of drinking water used, reuse of materials that can be used for other purposes, improvement of techniques used, reduction of vegetable production costs and greater reuse of natural resources finite.

FINAL CONSIDERATIONS

The incentive to implement new techniques for the rural school, provided the participation of all, seeking new ways of learning. arousing the students' curiosity for teamwork, seeking the interaction of all. To show that research is of fundamental importance for teaching/learning, and to constantly seek to awaken students to the search for improvements in order to develop the school environment.

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