

عنوان مقاله:

Improving quality of the produced agricultural crops in gardens utilizing a solar chimney

محل انتشار:

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خلاصه مقاله:

This paper presents a novel application of a solar chimney with the purpose of helping to reduce the pest distribution in agricultural crops by ventilating the garden. It consists of a chimney stays on the foundation with a solar collector around it. The air passing through the solar collector absorbs the solar radiations, so the temperature of the air passing through the collector increases. Ventilating chimney works on the buoyancy principle. The density distribution difference of the air between the outside and inside of the chimney produces the buoyancy force, causes the air to flow through the chimney. After presenting the equations demonstrating the motion of the air flow and simplifying them, the effects of geometrical parameters, ambient weather conditions and geographical location on the chimney performance have been studied. Results show that a chimney with high altitude and large diameter working in low ambient temperature will show better performance

کلمات کلیدی:

solar chimney; pest management; buoyancy; ventilation

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