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Several applied utilizations of tree allelopathic function in artificial closed bio-ecosystems.

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It has been well known that allelopathy is a phenomenon that an action of natural bioactive chemicals produced by plants to other life. Many allelopathy researches have reported and accumulated the results, identification of the candidate substances which cause the phenomenon and its functions, using many species of plants as materials. When designing the closed-ecosystem in outer planet or severe environmental place, the tree has a lot of utility values. Tree produce excess oxygen, woody materials for living cabin, and provide biomass by cultivating crops and other species of creatures, in addition to the material recycling in the atmosphere. The study of allelopathy evaluation becomes necessary sufficiently when trees cultivate in the artificial ecosystems. We have found a tree, one of Prunus tree line, which had a high medicinal utility value in the study of an allelopathy. When we establish an artificial ecosystem design, there will be several utility matters in the one field of study developed from the allelopathy research. We will show the result as one of the example study and discuss them.

Keywords: tree, functional substaces