

## The Effect of the Amount of CO<sub>2</sub> on *Sansevieria trifasciata* in Indoor Environment

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**Aim of the study:** Today, at least 80% of the lives of people living in cities pass through indoor environments, and indoor air quality directly affects people's health and performance. Carbon dioxide is a gas that changes rapidly in vivo due to its vital activities. The amounts of CO<sub>2</sub> are increased by the breathing of living things while green plants are reduced by photosynthesis. Therefore, the amount of CO<sub>2</sub> that negatively affects human health and performance in the indoor environment can be reduced by the help of indoor plants. However, since there is not enough work to be done in this subject, it is not known exactly to which level the amount of CO<sub>2</sub> in the indoor environment can be reduced or how much CO<sub>2</sub> is increased by respiration when the light is inadequate. In this study, it was tried to determine how *Sansevieria trifasciata*, which is frequently used as an indoor plant, affected the amount of CO<sub>2</sub> in the environment.

**Material and Methods:** The plant used in the present study were placed into a glass wall (0,7 m x 0,7m x 1 m) with a volume of around 0.5 m<sup>3</sup> which was not air-permeable and the measurements were carried out using an Extech-branded "Desktop Indoor Air Quality CO<sub>2</sub> Datalogger". The glass wall used in the study was placed in the south of building so that it received plenty of daylight. It received direct sunlight between 07:00-11:00 and was illuminated until around 17.00. In the area where the study was carried out, the sun rose around 05.05 and went down at around 20:30. After the plants were placed in the glass wall, a CO<sub>2</sub> measuring device was set to measure the level of CO<sub>2</sub> every 5 minutes. Within the scope of the study, the plants were kept within the glass wall for at least 5 days. It was carried out in June-July when daylight lasts longer. The results obtained were evaluated on graphics.

**Results:** As a result of the study, it was determined that *Sansevieria trifasciata* consumed more than 10 times more CO<sub>2</sub> than the night respiration by photosynthesis during the day when the amount of CO<sub>2</sub> in the environment was affected by the amount of CO<sub>2</sub> and the amount of CO<sub>2</sub> in the environment was more than 1000 ppm but the CO<sub>2</sub> amount could be reduced up to 500 ppm.

**Keywords:** *Sansevieria trifasciata*, CO<sub>2</sub>, Indoor, Air Quality.