

제 목	구리, pH 및 요오드가 <i>Scenedesmus quadricauda</i> (녹조류)의 성장에 미치는 영향 Effects of Copper with pH and Iodine on the Growth <i>Scenedesmus quadricauda</i> (Green Algae)
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Abstract	<p>Effects of various concentrations of copper with different combinations of pH and iodine concentration on the growth of green algae, <i>Scenedesmus quadricauda</i>, were studied for the purpose of understand the role of hydrogen ion and iodine and the threshold concentration of copper that affect algal growth.</p> <p>There were significant differences in algal growth among cultures treated with 0 - 0.45 mg · l⁻¹ of copper with different growth conditions including pH 4 - 7.0 and 0 - 45 mg · l⁻¹ of iodine in algal culture. As the concentration of copper increased to 0.45 mg · l⁻¹ the growth rate of algae treated with pH 4 was decreased. The growth of both algae treated with 0.30 mg · l⁻¹ of copper and 0.15 mg · l⁻¹ was not significantly different from those of algae without copper treatment except the algal culture treated with pH 4.0. At pH 5.5 treatment, the growth of algae was inhibited only 0.45 mg · l⁻¹ of copper, while those of algae treated with 15 mg · l⁻¹ of iodine were not inhibited. When the copper concentration was 0.45 mg · ml⁻¹ in the Bristol's medium, the growth of algae was inhibited at the early stage of growth cycle, which recovered at the later stage of growth cycle. When the iodine was treated with concentration of 30 mg · l⁻¹ in the Bristol's medium, the growth of algae was increased even though copper was treated at the concentration of 0.15 - 0.30 mg · l⁻¹. The inhibitory effect of copper on algal growth was compensated by mild treatment of iodine at the pH 5.5 - 7.0.</p> <p>It was observed that the threshold concentration of copper to inhibit growth of <i>Scenedesmus quadricauda</i> is around 0.45 mg · l⁻¹ in this study. At pH 4.0, the inhibitory effect of copper on algal growth was increased. The treatment of iodine with 15 - 45 mg · l⁻¹ was not significantly affect to the growth of algae.</p>