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## Effect of growth regulators and light factor on callus formation and alkaloids production on *Vinca rosea* plant (*Catharanthus roseus* L.).

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**V**inca alkaloids are a subset of drugs obtained from the periwinkle plant, they are naturally extracted from the pink periwinkle plant (*Catharanthus roseus*), and they have been used to treat diabetes, high blood pressure and have been used as disinfectant, the vinca alkaloids are also important for being Cancer resistant, there are four major vinca alkaloids in clinical use: Vinblastine (VBL), vinorelbine (VRL), vincristine (VCR) and vindesine (VDS), vinca alkaloids are the second- most-used class of cancer drugs and will stay among the original cancer therapies, *Catharanthus roseus* is still source used for the powerful antitumor drugs (vinblastine and Vincristine) Callus culture had been done on MS-medium, containing Different Concentrations from growth regulators Where the different effects of growth regulators were studied when different parts of the plant have been cultured from leaves and stems, this is to induce callus formation and encourage growth, and the concentrations that were prepared: BA (0,1 – 0,3 – 1 – 2 mg/l) \_ NAA (0,1 – 1 mg/l) \_ IAA (0,1 mg/l) 2,4-D (0,75 – 1 mg/l) It was obtained the highest weight and best Vitality from the Callus with using of (BA – 2,4-D)

**Keywords:** *Vinca rosea*, Temperature, Alkaloids, callus induction, growth regulators.

### Biography:

Youssif Mahmoud Ahmed Student at 4th year, Faculty of Agriculture, Biotechnology department, AL Azhar University in Cairo, he holds a training in Basic Protein, Isolation and Purification from City of Scientific Research and Technological Applications (SRTA-City), Training at the Desert Research Center in tissue culture technology, Applications of Bacteriology, Virology, Immunology and Serology National Research Center, Applications of QC & QA in pharmaceutical industry At Zewail City of Science and Technology, Applications of pharmaceutical industry in Memphis for pharmaceutical & chemical industries, Basics of digital marketing from Google, IAB Europe and The Open University, and he attended The Global Entrepreneurship Week at American corner (The American center of the Embassy of the United States of America in Cairo) And in the final stage to publish my first research in a scientific journal.