

CHAPTER 2
ROLE OF CHITOSAN AS A FOLIAR
APPLICATOR TOWARDS GROWTH
PARAMETER AND YIELD OF HYDROPONIC
LETTUCE (*Lactuca sativa L.*)

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INTRODUCTION

Lettuce (*Lactuca sativa L.*) is the most popular salad vegetable crops and is in demand by local markets throughout the year. Lettuce is an important dietary vegetable, which is primarily consumed fresh in salads. Lettuce contains important phytochemicals, including, carotenoids vitamins, and other antioxidants. Consumption of lettuce has some health benefits attributed to the presence of vitamin C, phenolic compounds, and fibre content.

The new technologies and research related to the improvement of crop production are increasing due to the increasing of global population. The high demand for food sources has led to the research of new plant growth regulators to increase plant productivity. Malaysian consumers purchase higher quality vegetables, especially leafy and salad vegetables as their income rise. The colour, size, texture, and taste are important parameters for successful marketing of lettuce and these factors determine the market price and the consumer preference. Lettuce is marketed as a whole product or as fresh cuts.

Chitosan is a type of polysaccharide found in the exoskeleton of shellfish such as crabs and crustaceans that has proved to be effective in many crops (Karimi et al., 2013). Chitosan is a natural, low in toxicity, and inexpensive compound that is biodegradable and