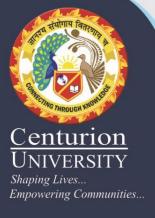


Domain: Smart Agriculture

Course: Growing of Hydroponics Lettuce

Project topic: Crop Management





pH and EC of nutrient solution •pH determines the availability of essential plant elements

•Optimum pH range of nutrient solution for development of plants is **6.0 to 7.0**

•Higher EC will prevent nutrient absorption due to osmotic pressure and lower level severely affect plant health and yield.

•Appropriate management of EC in hydroponics technique can give effective tool for improving vegetable yield and quality

•EC(dSm-1) between **1.2 to 1.8** is advised for lettuce



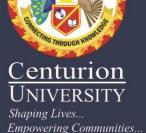
Crop Health

•Pest management Sanitation is the key to maintaining a disease-free system.

•The most devastating disease problems occur in hydroponics when a water mold (e.g. Pythium or Phytophthora) or other water-borne pathogen is introduced into the system.

•Water molds have motile spores that can quickly spread to all the plants within a recirculating system. Since there are no fungicides registered for controlling these pathogens on greenhouse lettuce, this type of disease outbreak can result in complete loss of the crop.

The solution tanks will have to be drained and all equipment must be cleaned with a bleach solution or other disinfectant before planting subsequent crops.
If the infection originated in the germination area, those benches and systems will also have to be thoroughly disinfected.



•Other diseases that can occur on greenhouse lettuce include Botrytis gray mold, powdery mildew and downy mildew.

 Greenhouse pests of particular concern are aphids, thrips, whiteflies and mites.

•Taking steps to prevent insects and mites from entering the greenhouse is the first step to controlling infestations.

• The use of insect screening on the sidewalls (if sidewall ventilation is used) and other entry points can help in this regard.

•Plants should be inspected daily for signs of disease, insects and mites.

•There are very few pesticides labeled for greenhouse production of these crops, so preventative management and early detection of pest and disease problems will be crucial.

•The nutrient solution provides an ideal location for algal growth. Since algae thrive in wet, well-lit sites, shading solution tanks can inhibit their growth





Thank you...