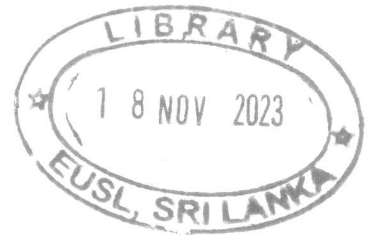
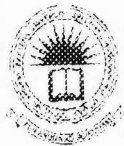


**REVIEW ON THE MANAGEMENT PRACTICES TO IMPROVE
SOIL NUTRIENT RETENTION**



BY

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ABSTRACT

This review on the management practices to improve soil nutrient retention. The objective of this study the influence of different factors improves the soil nutrient content and how to improve it. Soil fertility affects crop productivity/yield. Fertile soil supplies nutrients to plants without causing nutrients toxicity or deficiency or nutrient imbalance. Soil fertility and crop productivity can be increased through proper soil nutrient management (SNM), a process that optimizes the use of fertilizer (e.g., chemical fertilizer, compost, and animal manure) as a source of plant nutrients. SNM is aimed at improving soil health at the same time meeting the nutrient requirements of crops. This can be achieved by applying fertilizer in the right amount, using the right source, the correct placement, and proper timing. Thus, SNM can maximize nutrient uptake to crops while minimizing nutrient losses. Chemical (inorganic) and organic fertilizers (OFs) have been widely used by farmers to supplement soil nutrients. Chemical fertilizers are produced artificially to provide rapid nutrition to plants. Chemical fertilizers contain mineral nutrients in high concentrations (N, P, and K) that are soluble and readily plant available. On the other hand, OFs are derived from animal manure and crop residues. OF application in soil offers several benefits such as building up soil organic matter, increases soil water holding capacity, reduce soil compaction, increases soil porosity, and improves soil structure. Soil aggregation plays a crucial role in soil physicochemical and biological processes, thus influencing soil nutrient retention. It is possible to improve soil aggregation by choosing appropriate agricultural practices. sound nutrient management program requires basic knowledge of the fertility status of the soil. The key to good soil quality is soil organic matter. A sufficient amount of nutrients in the soil, particularly nitrogen, is necessary to form and maintain soil organic matter. A fertile soil has greater plant growth, which can create greater inputs of roots and other plant debris into the soil. This plant debris undergoes decomposition and adds to the soil organic matter. Different soils have different capacities to adsorb and retain nutrients. This is related to the amount of soil organic matter and the soil texture (percent sand, silt, clay). Because the soil texture cannot be changed, increasing soil organic matter is the best way to increase the capacity of a soil to retain nutrients. Soils with larger amounts of soil

organic matter and at a near neutral pH will have a greater capacity to retain nutrients, thus a higher soil quality than soils with low organic matter. Managing nutrients with inorganic fertilizers is relatively easy because nutrients can be specifically blended in the concentrations needed for a particular crop. Nutrient management can be more difficult when organic fertilizers such as manures or composts are used. Composts can create similar conditions, especially when manures are used as a feedstock. Composting causes nitrogen concentrations in the organic material to decrease because some of the original nitrogen is lost as ammonia gas. Phosphorus is concentrated because the volume of the material decreases during composting, and it does not have a gaseous form. It is an important in building and maintaining soil quality.

Keywords: Soil, Nutrient, Fertility, Management, Compost, Organic matter, Fertilizer, Crop

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