In the context of modern Indian agriculture with the development of high yield in different crops during past three decades, the consumption of fertilizers and pesticides for commercial crop production had almost reduced the soil unsuitable for further cultivation. In fact 60 per cent of our agricultural land, currently under cultivation suffers from serious problem of soil health mainly due to indiscriminate use of chemical fertilizers. Organic farming promises a balanced environment and quality food to our people in India, who are dependent on agricultural sector for their livelihood. Integrated nutrient management is the most effective and practical way to mobilize all available, accessible and affordable plant nutrient sources in order to optimum the productivity of the cropping system. Gherkin (Cucumis sativus L.) being a short duration cucurbitaceous crop puts forth continuous vegetative growth and its yield and quality are largely influenced by the application of nutrients. Hence, there is a need to maintain high nutrient status in soil for its satisfactory growth and yield. With this objective the present investigation was carried out to study the effect of various sources of nutrients as soil and foliar application on growth attributes in gherkin.

MATERIALS AND METHODS

The experiment was conducted in the Department of Horticulture, Faculty of Agriculture, Annamalai University, Tamil Nadu during 2006 to study the influence of soil and foliar application of organic nutrients on growth in gherkin (Cucumis sativus L.) cv. AJAX HYBRID. The organic manures viz., farmyard manure (25tha⁻¹), press mud (25 t ha⁻¹) and vermicompost (5 t ha⁻¹), were applied as soil application whereas, vermiwash (1:5 dilution), panchagavya (3 %) and humic acid (0.2 %) along with recommended dose of inorganic fertilizers @ 120: 90: 50 kg NPK ha⁻¹. The experiment was laid out in a Randomized Block Design with thirteen treatments in three replications. The study revealed that application of pressmud @ 25 t ha⁻¹ combined with recommended dose of inorganic fertilizers and humic acid @ 0.2 per cent recorded the highest vine length (213.39 cm), number of leaves (69.54), leaf area (163.52 cm²), inter nodal length (17.98 cm) and dry matter production (7.93 t ha⁻¹) followed by the treatment that received vermicompost @ 5 t ha⁻¹ along with recommended dose of inorganic fertilizers and humic acid @ 0.2 per cent when compared to other treatments.

Key words: Gherkin, Farm yard manure, Pressmud, Vermicompost, Panchagavya, Humic acid

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