

I. INTRODUCTION

Basic research received a new lease with the development of modern methods of test tube culture of nematodes. The development of media for continuous culture of nematodes opened up scope to study under defined conditions, their growth, nutritional and other requirements.

With the above objectives in view, investigations were conducted on a free living nematode, Panagrolaimus hygrophilus (Bassen, 1940) in the laboratory. Nucleus culture of this nematode was developed first. The development and life cycle description of the immature and adult stages and morphometrics of the nematode were studied for the first time.

Attempts were made to develop suitable media for mass culture of the nematode. After ascertaining the medium, efforts were made to bring about variability in populations by enriching media with chemicals. As a pre-requisite to these assays, the osmoregulation in P. hygrophilus during exposure to electrolytes etc. was investigated and the tolerable doses were estimated. The total inoculations made for these studies, numbered 294. The sample for estimation of final populations,

biomass of nematodes and growth parameters were 2948 and the dimensions measured were 6-8 for each specimen. To reduce enormous data and yet to facilitate comparisons, treatments where the parameters studied were on par were omitted for morphometry. Also, the illustrations were limited to females (viz., Fig.11). All data were subjected to computerization and the analysed results were interpreted and reported.

It is hoped that an insight had been made in the biology of P. hygrophilus and the effects of nutrients on its morphology and morphometrics. The results presented may be additions being reported for the first time. The author had realised the several deficiencies which could be made up by use of more sophisticated technology available in developed countries. However, it was contended that the results achieved would add new knowledge in this field and defined new parameters for morphometric studies on P. hygrophilus.