

**EFFECTS OF DIFFERENT CONCENTRATIONS AND FREQUENCIES OF
APPLICATION OF SEAWEED LIQUID EXTRACT (*Sargassum crassifolium*
L.) ON GROWTH AND FLOWERING OF ROSES (*Rosa* spp.)**

BY

SUMANGALA KIRUPACARAN



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ABSTRACT

Rose is a popular cut flower in Sri Lanka and mainly cultivated for the export market. A pot experiment was carried out in the Crop Farm, Eastern University, Sri Lanka to evaluate the effects of seaweed liquid extract on growth and flowering of roses from June to September 2018. This experimental design was completely randomized design with seven treatments with ten replications. The treatments were defined as, once a week application of 10% seaweed liquid extract (T1), twice a week application of 10% seaweed liquid extract (T2), once a week application of 20% seaweed liquid extract (T3), twice a week application of 20% seaweed liquid extract (T4), once a week application of 30% seaweed liquid extract (T5), twice a week application of 30% seaweed liquid extract (T6) and application of distilled water (T7- control). The agronomic practices were carried out uniformly for all treatments. Plant height, leaf area, plant biomass, number of flowers and dry weight of flowers were measured at monthly interval. Analysis of variance was performed to determine the significant difference among the treatments ($p < 0.05$). Plant height, leaf area, plant biomass, number of flowers and dry weight of flowers were significantly higher in T3 based on the results. Once a week application of 20% seaweed liquid extract had the potential to increase the plant height, leaf area, plant biomass, number of flowers and dry weight of flowers in this experiment. It could be due to the presence of nutrients and the growth promoting substances in the *Sargassum crassifolium* L. seaweed extract and optimum concentration of seaweed received by plants at T3. From this experiment, it could be concluded that once a week application of 20% seaweed liquid extract is suitable for promoting growth and flowering of roses.

TABLE OF CONTENTS

ABSTRACT.....	i
ACKNOWLEDGEMENT.....	iii
TABLE OF CONTENTS.....	iv
LIST OF TABLES.....	viii
LIST OF FIGURES.....	ix
LIST OF PLATES.....	xi
CHAPTER 1	1
1.0 INTRODUCTION.....	1
CHAPTER 2	6
2.0 LITERATURE REVIEW.....	6
2.1 Floriculture	6
2.1.1 World cut flower industry.....	6
2.1.2 Floriculture industry in Sri Lanka.....	8
2.1.3 Types of plants produced in Sri Lanka	9
2.1.4 Potential for Cut Flower Production Development in Sri Lanka.....	9
2.1.5 Constraints in floriculture industry in Sri Lanka	10
2.2 Study plant.....	11
2.2.1 Rose.....	11
2.2.2 Taxonomy of rose	12

2.2.3 Morphology of rose plant.....	12
2.2.4 Importance of roses.....	14
2.2.5 Production of roses in Sri Lanka.....	15
2.2.6 Production of roses in world.....	16
2.2.7 Effects of application of growth regulators and bio stimulants on rose plants.....	17
2.2.7.1 Growth regulators.....	17
2.2.7.1.1 Gibberellic acid and cycocel (CCC).....	17
2.2.7.1.2 Paclobutrazol and 1-methylcyclopropene (1-MCP).....	18
2.2.8.1 Bio stimulant.....	19
2.2.8.1.1 Arbuscular mycorrhizal fungi (AMF).....	19
2.3 Seaweed.....	20
2.3.1 Brown seaweed.....	21
2.3.2 Taxonomy.....	22
2.3.3 Morphology of <i>Sargassum crassifolium</i> L.	23
2.3.4 Resources and utilization of seaweed in Sri Lanka.....	25
2.3.5 <i>Sargassum sp.</i> in Sri Lanka.....	26
2.3.6 Seaweeds in agriculture.....	27
2.3.7 Chemical components of seaweed.....	28
2.3.7.1 Macro and micro nutrients.....	29
2.3.7.2 Growth promoting hormones.....	29
2.3.7.3 Organic compounds.....	29

2.3.8 Effects of seaweed application on plant growth	31
2.3.8.1 Effects on shoot growth and photosynthesis	31
2.3.8.2 Effects on flowering	31
2.3.8.3 Effects on root development and mineral absorption.....	31
CHAPTER 3	33
3.0 MATERIALS AND METHODS	33
3.1 Seaweeds (<i>Sargassum crassifolium</i> L.)	33
3.1.1 Collection of seaweeds (<i>Sargassum crassifolium</i> L.)	33
3.1.2 Preparation of <i>sargassum crassifolium</i> L. Seaweed Liquid Extract (SLE)	33
3.2 Experimental site description and duration	34
3.3 Experimental design	35
3.4 Agronomic practices	37
3.4.1 Planting materials.....	37
3.4.2 Preparation of pot.....	37
3.4.3 Irrigation	38
3.4.4 Application of fertilizer.....	38
3.4.5 Weeding	38
3.4.6 Plant protection	38
3.5 Sampling method and sampling interval	39
3.6 Measurements.....	39
3.6.1 Plant biomass (g).....	39

3.6.2 Leaf area per plant (cm ²).....	39
3.6.3 Plant height (cm).....	40
3.6.4 Number of flowers per plant (Nos).....	40
3.6.5 Dry weight of flower (g).....	40
3.7 Statistical Analysis	41
CHAPTER 4	42
4.0 RESULTS AND DISCUSSIONS.....	42
4.1 Plant height.....	42
4.2 Leaf area (LA)	46
4.3 Plant biomass.....	50
4.4 Number of flowers.....	54
4.5 Dry weight of flowers per plant.....	58
CHAPTER 5	61
5.0 CONCLUSIONS.....	61
SUGGESTIONS FOR FURTHER STUDIES.....	62
REFERENCES.....	63