

**EFFECT OF DIFFERENT WATER APPLICATION METHODS
ON GROWTH AND YIELD CHARACTERISTICS OF TRUE
CINNAMON (*Cinnamomum zeylanicum* Blume.)**



BY

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ABSTRACT

Cinnamon (*Cinnamomum zeylanicum* Blume) is a member of the Lauraceae family, which is a vast family of primarily evergreen woody trees or shrubs with around 53 genera and 2500–3000 species found in tropical and subtropical latitudes. Because of the high and growing demand for cinnamon, it is extending to the dry zone of Sri Lanka. Due to low rainfall in the dry zone, irrigation is required. Among farmers and peelers, it is a known fact that peeling is difficult in dry zone cinnamon as well as in the dry season of wet and intermediate zones. Therefore, irrigation practice may be a key role in increasing the production and the extent of cultivation. This study, therefore, aimed to study the effect of different water application methods on the peeling time and growth and yield characteristics of true cinnamon and to evaluate the water distribution efficiency of micro irrigation systems installed at the National Cinnamon Research and Training Center (NCRTC), Palolpitiya, Matara.

Three years old bushes of commonly cultivated cinnamon cultivar (*Cinnamomum zeylanicum* Blume) were used in this study. There were four treatments. Each treatment was repeated four times (20 bushes per replicate) and the experiment was conducted as a randomized complete block design (RCBD). The irrigation was done by using a sprinkler irrigation system (T1), a drip irrigation system (T2), by using a rubber hose (T3) and one plot was kept as control (no irrigation-T4) to matured cinnamon plants. Irrigation was done at one-week interval for all four treatments except T4 from December 2022 – February 2023 at the rate of 1 L per bush per day.

Findings of the study revealed that, with the use of sprinkler irrigation system growth and yield parameters such as number of harvestable stems, bark thickness, stem height, fresh bark weight, and the dry bark weight could be increased. Cinnamon plants grown

without irrigation showed an average scraping and peeling time of 58.2 sec and 82.2 sec, respectively. It is the lowest time compared to plants irrigated with different methods of irrigation. However, there is no significant variation ($p < 0.05$) in peeling time among the treatments. During the research period, plants produced tender leaves which in turn increases the peeling time. Although sprinkler irrigation system creates a favorable micro climatic condition, drip irrigation system shows good distribution uniformity than sprinkler irrigation system. Hence, for cinnamon cultivation under irrigation, drip irrigation could be recommended. Further, cultivation of cinnamon could be extended to the dry zone under drip irrigation.

Keywords: Cinnamon cultivation, irrigation method, peeling time, scraping time

TABLE OF CONTENTS

ABSTRACT	i
ACKNOWLEDGEMENT	iii
TABLE OF CONTENTS	iv
LIST OF TABLES	vii
LIST OF FIGURES	viii
LIST OF ABBREVIATIONS	ix
CHAPTER 01: INTRODUCTION	1
1.1 Background	1
1.2 Research Problem and Justification	2
1.3 Objectives	3
CHAPTER 02: REVIEW OF LITERATURE	4
2.1 Scientific classification of true cinnamon	4
2.2 History of Ceylon cinnamon	4
2.3 Cinnamomum Species Endemic to Sri Lanka	5
2.4 Varieties of Cinnamon	5
2.5 Major growing areas	5
2.6 Climatic Conditions	6
2.6.1 Rainfall	6
2.6.2 Temperature	6
2.6.3 Soil	7
2.6.4 Day Length and Insolation	7
2.6.5 Wind	8
2.7. Propagation of cinnamon	8
2.8 Crop establishment	9
2.8.1. Planting materials	9
2.8.2. Field planting	9
2.9 Crop management	9
2.9.1. Fertilizer application	9

2.9.2 Weeding	10
2.9.3. Training and Pruning	10
2.9.4 Irrigation	11
2.10. Pest and Diseases in Cinnamon cultivation	12
2.10.1. Pests	12
2.10.2. Diseases	12
2.11 Traditional Cinnamon Quill Making Process	13
2.12 Uses of Ceylon Cinnamon	17
2.13 Irrigation methods	18
2.13.1 Sprinkler Irrigation System	18
2.13.2 Drip Irrigation system	22
2.13.3 Surface irrigation system (hose irrigation)	24
CHAPTER 03: MATERIALS AND METHODS	26
3.1 Description of the study area	26
3.2 Experimental design	26
3.2.1 Treatment 01 (Sprinkler irrigation system)	27
3.2.2. Treatment 02 (Drip Irrigation System)	27
3.2.3 Treatment 03 (Hose Irrigation System)	28
3.2.4 Treatment 04 (Control condition)	29
3.3 Data Collection	29
3.4 Uniformity of irrigation	31
3.4.1 Uniformity of Sprinkler Irrigation system	31
3.4.2 Uniformity of drip irrigation system	32
CHAPTER 04: RESULTS AND DISCUSSION	33
4.1. Effect of different irrigation methods on growth characteristics of cinnamon	33
4.1.1 Number of harvestable stems	33
4.1.2. Bark thickness	34

4.1.3 Stem girth	34
4.1.4. Stem height	35
4.1.5 Stem weight	36
4.1.6 Wood weight	37
4.1.7. Fresh bark weight	37
4.1.8 Dry bark weight	38
4.1.9 Scraping time	39
4.1.10. Peeling time	40
4.2. Uniformity of drip and sprinkler irrigation systems	41
4.2.1 Uniformity of drip irrigation system	42
4.2.2 Uniformity of sprinkler irrigation system	43
CHAPTER 05: CONCLUSIONS	44
SUGGESTIONS AND RECOMMENDATION	45
REFERENCES	46

LIST OF TABLES

Table 4.1: Growth characteristics of Cinnamon grown under different water application method	39
Table 4.2: Variations of scraping time per 1kg of dry bark and peeling time per 1kg of dry bark	41

LIST OF FIGURES

Figure 2.1: Traditional Cinnamon Quill Making Process	13
Figure 3.1: Layout of the treatment	26
Figure 3.2: Sprinkler irrigation	27
Figure 3.3: Drip irrigation system	28
Figure 3.4: Hose Irrigation	28
Figure 3.5: Cinnamon without irrigation (Control)	29
Figure 3.6: Cinnamon peeling process	30
Figure 3.7: Equipment set	30
Figure 3.8: Setup of sprinkler uniformity	32
Figure 3.9: Setup of drip uniformity	32
Figure 4.1: Average number of harvestable stems	33
Figure 4.2: Average bark thickness	34
Figure 4.3: Average stem girth	35
Figure 4.4: Average stem height	35
Figure 4.5: Average stem weight	36
Figure 4.6: Average wood weight	37
Figure 4.7: Average fresh bark weight	37
Figure 4.8: Average dry bark weight	38
Figure 4.9: scraping time	40
Figure 4.10: Peeling time	40
Figure 4.11: Uniformity of drip irrigation system	42
Figure 4.12: Uniformity of sprinkler irrigation system	43