PHYSIOLOGICAL STUDIES ON THE GROWTH FLOWERING AND YIELD IN MANGO TREES.

By

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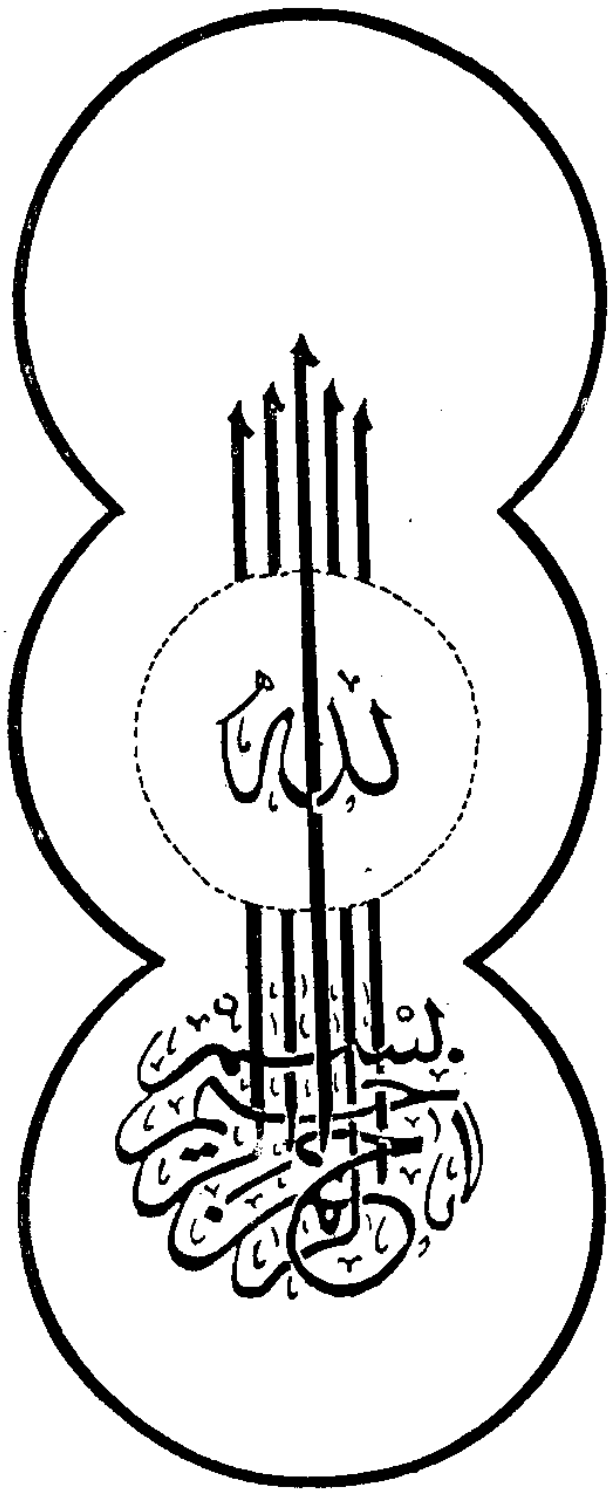

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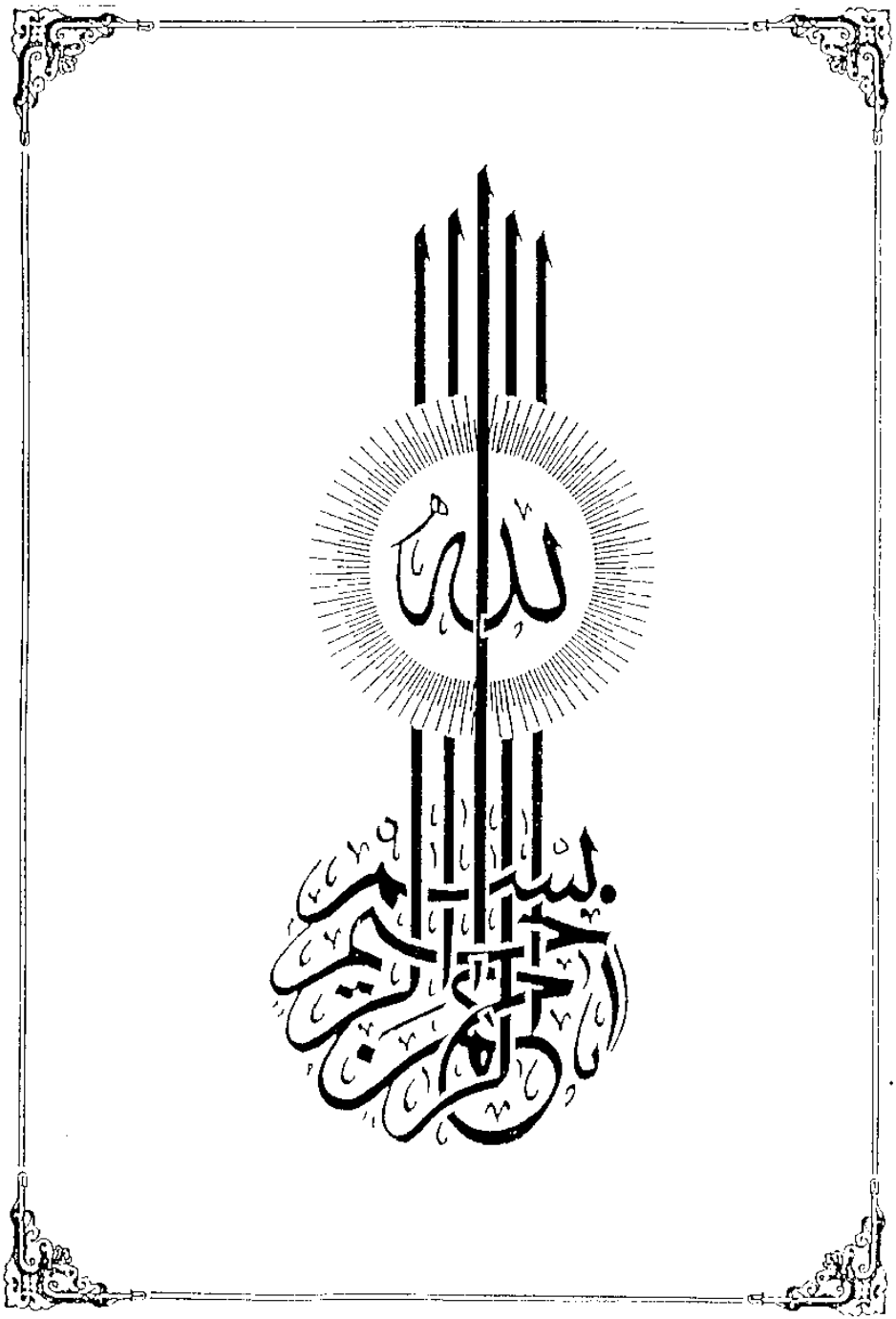

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ABSTRACT

The present work was conducted through 1986 / 1987, 1987/ 1988 seasons, on Pairi and Ewais mango trees grown at El-Haram orchard. Three experiments were carried out in this work:-

(1) Effect of some growth regulators sprays (GA_3, GA_{4+7}, BA, Promaline, Alar and Ethrel each in three gradient levels). Spraying mango trees by BA in Nov.advanced flower bud opening by 6-11 days whereas GA_3, GA_{4+7}, delayed flowering by 8 - 22 days than the control. Promaline at 100 ppm, GA_{4+7} at 50 ppm when applied in Nov. or Nov. and March reduced the percentage of malformed panicles. GA_3, GA_{4+7} at 50 ppm and promaline at 200 ppm when applied in Nov. increased the length of floral panicles. Ethrel, Alar at 100 ppm and BA at 200 ppm in Nov. increased the number of perfect flowers. Spraying Pairi and Ewais cvs. with promaline at 100 ppm in Nov. increased the yield to the double.

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(2) Chemical composition of shoots and buds of Pairi and Ewais cvs. from total carbohydrates, total soluble sugars, C/N ratio, total phenols were higher in Dec. than in Nov. shoot and bud indoles content seemed to decrease in Dec. than in Nov. GA_{4+7}, BA, Promaline sprays have increased total carbohydrates, total soluble sugars, and indoles/phenols ratio in shoots of both Pairi and Ewais cvs. whereas GA_{4+7}, BA and Promaline and Alar sprays have increased total carbohydrates, total soluble sugars content in leaves of both cvs. Alar and Promaline applications have reduced N content in shoots and leaves of both cvs.

(3) Comaprison between chemical composition of mango shoots bearing normal or malformed panicles. Shoots segments and leaves pertaining mango shoots bearing malformed inflorescences contained higher amounts of total carbohydrates, total soluble sugars, C/N ratio, total indoles and total phenols than shoots carying normal panicles whereas the opposite had found in N content. Pairi shoots segments and leaves usually showed higher values of total carbohydrates and C/N ratio. Ewais shoot segments, leaves and panicles exhibited amounts of soluble indoles and phenols generally higher than those of pairi tree.

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INTRODUCTION

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