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# Epicuticular wax content in mulberry

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**Key words :** Mulberry, Epicuticular wax, Water stress, Breeding program.

Quantitative analysis of epicuticular wax content was carried out in six mulberry (*Morus* spp.) varieties. Marked variations were recorded in quantum of wax content in different mulberry cultivars and between leaves of different ages. Maximum leaf wax content was recorded in variety S13 followed by S54, K2, S41, S34 and S36 in decreasing order. Minimum wax content was recorded in leaves of 1st order and maximum in leaves of 15th order. From results it may be inferred that variety S13 could be cultivated under rainfed conditions and can be exploited in breeding programs for evolving stress tolerant varieties.

Quality and quantity of leaf surface wax play an important role in the resistance and susceptibility of plants to diseases and stress (Kumar, 1974). Plant cuticle waxes influence absorption, fungal invasion, water loss and adoption to water stress (Gowda and Santa Kumari, 1990). Wax embedded in the leaf cuticle has been considered important in water resistance and play an important role in water economy of leaves (Hall and Jones, 1961). Knowledge about leaf content is considered important in interpretation of plant response to environment and in agriculture to evaluate drought and disease-resistant varieties. Gowda and Santa Kumari (1990) indicated that epicuticular wax content – an desired character, can be used in breeding programs to evolve suitable drought resistant varieties in mulberry (*Morus* spp.) – an economically important plant cultivated in India mainly for its foliage, the sole food of silk producing insect *Bombyx mori* L. However, reports are meagre about epicuticular wax content in mulberry and use of this character as breeding tool. It is therefore, present study was initiated to estimate epicuticular wax content in important mulberry varieties.

Leaves of mulberry varieties K12, S13, S34, S36, S41 and S54 were collected from different positions *viz.*, 1st, 5th, 10th and 15th and epicuticular wax content was estimated using methodology adopted by Gowda and Santa Kumari (1990). Experiments were repeated five replications maintained each time.

Maximum leaf wax content was obtained in variety S13 followed by S54, K2, S41, S34 and S36 (Fig. 1). The wax content was found to be correlated with leaf age. The minimum leaf wax content was recorded in 1st leaf and highest in the leaves of the 15th order. These results find support from work of Gowda and Santa Kumari (1990).

Freeman and Turner (1985) and Schieferstein and Loomis (1956) reported that wax production commences close to the time of leaf emergence and maturity of leaves profoundly influences the deposition of wax. The quantity of wax deposited in leaves appears to be determined genetically (Gowda and Santa Kumari, 1990). They concluded that mulberry cultivars having higher surface wax content can be successfully cultivated under rainfed condition on it may be inferred that variety S13, which had highest quantity of leaf surface wax content, can be

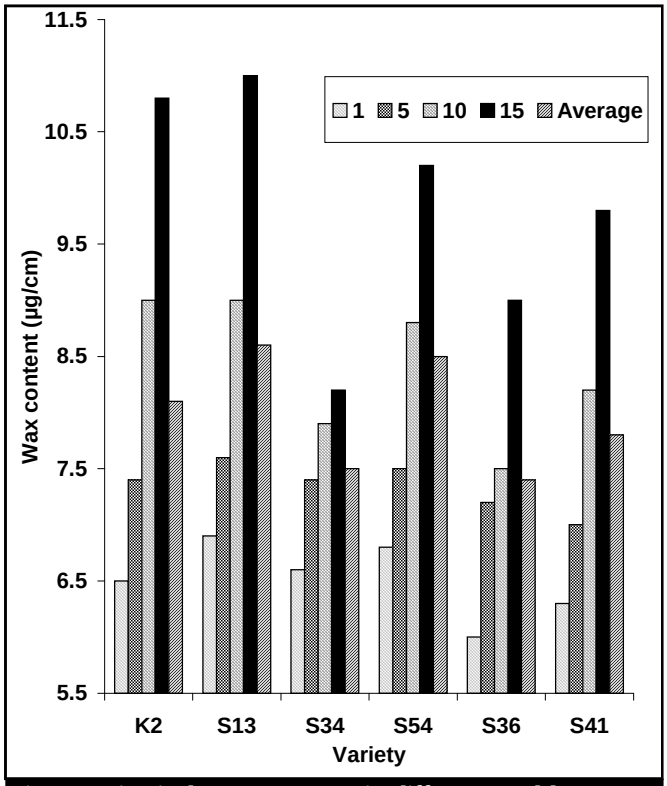


**Fig. 1: Epicuticular wax content in different aged leaves-1st, 5th, 10th and 15th leaf position, in different mulberry varieties**

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