

Preliminary screening of cardamom (*Elettaria cardamomum* Maton) elite clones for thrips (*Sciothrips cardamomi* Ramk.) damage in the field

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ABSTRACT

Seventy three elite cardamom (*Elettaria cardamomum*) clones were screened for tolerance to thrips (*Sciothrips cardamomi*) damage under natural infestation. Three clones, viz., D-514, D-769 and CI-754 were promising with least damage to capsules.

Key words: cardamom, *Elettaria cardamomum*, *Sciothrips cardamomi*, screening, thrips, tolerance.

Cardamom (*Elettaria cardamomum* Maton), an important spice crop, is mainly grown in the Western Ghats of India. The plants put forth new shoots and panicles almost throughout the year and hence succulent parts are always available for infestation by pests like thrips (*Sciothrips cardamomi* Ramk.) (Thysanoptera : Thripidae), which is the most destructive insect pest of cardamom (Kumaresan, Regupathy & Baskaran 1982). Monoculturing and lack of crop rotational practices have rendered thrips to become a persistent pest. The pest infestation results in development of scabs on the surface of cardamom capsules and peduncles, causing considerable economic loss.

Cardamom clones exhibit considerable variability in their reaction to thrips damage. Panicle type, length and branching habit of panicles and size and

shape of capsules influence thrips density on the clones. Identification and propagation of clones resistant or tolerant to thrips would be economical in managing thrips infestation in cardamom, as chemical control demands repeated rounds of spraying. However, information on relative tolerance of cardamom cultivars/clones to thrips damage is not available. The present note deals with screening of 73 elite cardamom clones to thrips damage in the field at Regional Research Station, Mudigere (13°7'N & 75°37'E), during 1989-90 and 1990-91. The screening was done under field conditions, with the objective of selecting clones tolerant to thrips under natural infestation. These elite clones were clonal selections and selected progenies of hybrid crosses developed from Early Bearing, Leaf Rot Resistant, Bold Capsule, Long Panicle, High Yielding and Multiple Branching parents.

In each entry, five clumps were randomly selected and the per cent damage to capsules was recorded taking into consideration the total number of capsules produced in each clump. The entries were then classified on a 0 to 4 scale, as Resistant; Tolerant; Moderately Tolerant; Moderately Susceptible and Susceptible, based on per cent capsule damage. The highest value of the two years years screening was considered for each entry while grouping.

Thrips damage to capsules ranged from 7.2 to 66.7%. Three entries viz., D-514, D-769 and Cl-754 were tolerant with less than 10% damage. Twelve entries were moderately tolerant. The check entry P-1 had a high thrips damage of 27% and was moderately susceptible (Table 1). In the present screening, the clones identified as tolerant show promise to be included in breeding programmes.

Table 1. Reaction of cardamom elite clones to thrips damage

Reaction rating	Clone
0 Resistant (0%)	Nil
1 Tolerant (<10%)	D-514, D-769, Cl-754
2 Moderately tolerant (11-20%)	D-163, D-297, D-432, D-446, D-457, D-471 D-510, D-517, D-527, Cl-731, Cl-674, Cl-678
3. Moderately susceptible (21-30%)	P-1*, D-1, D-18, D-43, D-105, D-111, D-142 D-185, D-186, D-205, D-249, D-278, D-300 D-522, D-535, D-542, Cl-653, Cl-758, Cl-726 Cl-770, Cl-773, Cl-730, Cl-749, Cl-753
4 Susceptible (>30%)	P-5, D-19, D-77, D-140, D-148, D-199, D-202 D-229, D-235, D-237, D-269, D-287, D-289 D-362, D-455, D-484, D-493, D-496, D-498, D-509 D-511, D-512, D-516, D-538, D-557, D-558, D-574 D-575, D-635, Cl-679, Cl-683, Cl-751, Cl-793

* Check entry

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