

Correlation between yield and yield parameters in cardamom (*Elettaria cardamomum*)

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Abstract

Twelve elite clones of cardamom along with a local check were assessed for yield. Linear relationship was computed among different yield and yield parameters recorded. All the parameters showed significant correlation amongst themselves.

Key words : Cardamom, correlation coefficient, yield and yield parameters.

Introduction

Various growth and yield parameters of cardamom, when identified and analysed for correlation can aid in its genetic improvement and increasing productivity [1]. With this view in mind, a field experiment was carried out at Cardamom Research Centre, Appangala to identify these parameters.

Materials and methods

At the Indian Institute of Spices Research, Cardamom Research Centre, Appangala in Coorg district of Karnataka State, 12 elite clones of

cardamom (Sel No.1 to 12) along with a local check (Clone 37, Malabar) were assessed for yield and yield parameters in factorial RBD design with two replications and 24 number of clumps per plot during two seasons (1992-93 and 1993-94). During the harvesting period, random samples were taken to measure and analyse total number of capsules and fresh weight of capsules per plant, number of capsule and fresh weight of capsules per plant in early harvest and total dry cardamom yield per hectare. Linear association was computed among different yield and yield parameters recorded.

Table- 1. Correlation coefficients computed among different yields and yield parameters in main field

Characters	1	2	3	4	5
1. Total number of capsules per plant (all harvests)	1.000	0.913**	0.893**	0.964**	0.913**
2. Wet weight of capsules per plant		1.000	0.690**	0.860**	1.000**
3. Number of capsules per plant in early harvest (First three harvests)			1.000	0.943**	0.690**
4. Wet weight of capsules per plant in early harvest				1.000	0.860**
5. Total dry yield of cardamom (kg) per hectare					1.000

** Significant at P = 0.01

* Significant at P = 0.05

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Results and discussion

The relevant data are given in Table-1. Number of capsules per plant was significantly correlated with wet weight of capsules ($r_p = 0.913$), number of capsules per plant in early harvest ($r_p = 0.893$), wet weight of capsule per plant in early harvest ($r_p = 0.964$) and total dry yield per hectare ($r_p = 0.913$). Wet weight with number of plant was significantly correlated with number of capsules ($r_p = 0.690$) and wet weight of capsules ($r_p = 0.860$) per plant in early harvest and total dry yield per hectare ($r_p = 1.00$). Number of capsules per plant in early harvest was significantly associated with wet weight of capsules per plant in early harvest ($r_p = 0.943$) and total dry yield per hectare ($r_p = 0.690$). Wet weight of capsules per plant in early harvest was significantly correlated with total dry yield per hectare ($r_p=0.860$). In similar studies reported,

earlier four most important characters directly contributing to yield in cardamom are, the number of tillers/panicles per plant, number of panicles per tiller, number of racemes per panicle and number of capsules per raceme [2]. High yielding clones can be identified at early stage of bearing by assessing them for number of capsules and wet weight of capsules in the early harvests which includes first three rounds of picking.

References

1. Madhusoodhanan KJ, Kuruvilla KM, Priyadharshan PM. 1994. Improvement of cardamom. In : *Advancè in Horticulture*. (Chadha KL & Rethinam P Eds.) Malhotra Publishing House, New Delhi, India pp.307-314.
2. Sudharshan MR, Madhusoodanan KJ, Jagadeesan P. 1989. Evaluation of germplasm in cardamom. *J Plant Crops* 16 : 331-334.