



Evaluation of promising small cardamom (*Elettaria cardamomum* Maton) cultivars/varieties for organic cultivation in the high ranges of Idukki district

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Introduction

- Global concerns on quality of food and food ingredients are getting more serious. Hence, it is pertinent to produce pesticide residue free spices to sustain the trade.
- Cardamom is recognized as one of the most valuable export oriented spice crops that need to be produced organically to achieve the goal of long term sustainability of CHR.
- Identification of varieties that respond efficiently to organic practices in the high land regimes of Idukki is the need of the hour to produce good quality cardamom.

Objective

- To identify cardamom types suitable for organic farming systems in the high ranges of Idukki district

Materials and Methods

- Study conducted at the Cardamom Research Station, located at Cardamom hill Reserve (CHR), Kerala Agricultural University, Pampadumpara during 2013 to 2019.
- Design: RBD with three replications (10 plants/replication) at 3 x 3 m² spacing
- Seven high yielding accessions {Malabar types (PV -1, S1, PS 27 and ICRI-2), and three Vazhukka types (PV-2, PI No14 and Green Gold (GG))} were evaluated under the adhoc package of practices recommendations for organic farming (KAU, 2009).

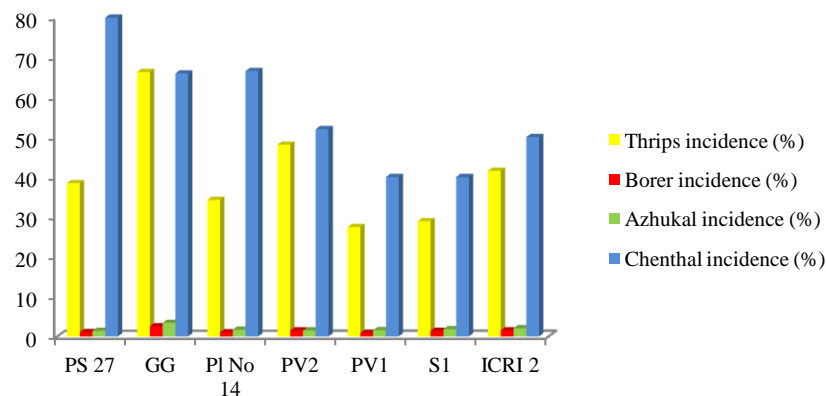
Table 1: Biometric and yield attributing characters in small cardamom cultivars/varieties in response to organic cultivation practices in the high ranges of Idukki district pooled data (2013-2019)

Accessions / Varieties	Plant height (cm)	No. of productive Tillers	No. of panicle s/clump	100 capsule wt. (g)	100 capsule vol. (ml)	Fresh wt. (kg/ha)	Dry wt. (kg/ha)
PS 27	241.11 ^{cd}	26.06 ^c	23.69 ^c	102.66 ^b	103.11 ^b	1947.36 ^b	365.90 ^b
GG	273.44 ^b	32.62 ^a	27.55 ^b	99.89 ^c	101.34 ^c	1624.55 ^e	324.21 ^c
Pl.No. 14	282.98 ^{ab}	23.22 ^d	25.80 ^c	100.33 ^c	101.66 ^c	1782.69 ^c	366.13 ^b
PV 2	298.43 ^a	28.84 ^b	28.84 ^a	103.33 ^a	109.66 ^a	1959.94 ^a	416.75 ^a
PV1	243.90 ^{cd}	17.44 ^e	28.80 ^c	70.00 ^f	81.78 ^f	1643.52 ^e	312.33 ^c
S1	254.11 ^c	22.20 ^d	23.69 ^c	80.00 ^e	90.44 ^e	1278.91 ^f	275.13 ^f
ICRI 2	228.38 ^d	22.84 ^d	27.60 ^b	81.77 ^d	94.67 ^d	1678.29 ^d	319.70 ^d
CD	3.99	0.74	0.67	0.49	1.02	0.64	0.76
CV	18.49	4.12	3.52	0.30	0.59	0.05	0.31

Results and conclusion

- Variety PV 2 resulted in good vegetative growth (plant height (298.43 cm)) and good reproductive growth (panicles/clump (28.84), 100 capsule weight (103.33g), 100 capsule volume (109.66 ml), fresh (1959.94 kg ha⁻¹) and dry capsule yield (416.75 kg ha⁻¹) under organic management.
- PV 2 exhibited superiority in tolerance to major pests and diseases of cardamom compared to *Green Gold*, the leading cultivated type in the high ranges of Idukki district.

Figure 1: Percentage incidence of pests and diseases in small cardamom cultivars/varieties in response to organic cultivation practices in the high ranges of Idukki district pooled data (2013-2019)



Reference: KAU (Kerala Agricultural University). 2009. *The Adhoc Package of Practices Recommendations for Organic Framing*. Kerala Agricultural University, Thrissur, pp. 129- 138.

Cardamom variety PV2

- Released from CRS, Pampadumpara
- Vazhukka type
- Early maturing
- Unbranched, lengthy panicle
- Long bold capsule
- Adaptable to high altitude area
- Yield potential (kg/ha) : 1250 (As per AICRP on spices recommendation)

