Evaluation of fennel (*Foeniculum vulgare* Mill.) varieties for growth and yield under Northern dry zone of Karnataka

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Introduction

Foeniculum vulgare Mill. (2n=22) is a cross pollinated seed spice belongs to family Apiaceae. Seeds are aromatic, contains stimulant and carminative properties. For crop improvement program presence of genetic variability into the population is very important as it provide chance to pick the genotype having desirable trait for improvement and it also gives wide range of options to improve trait of interest. So, this study evaluation of varieties was initiated.

Material and methods

- Sixteen varieties of fennel seeds were dibbled at a spacing of 45 cm x 20 cm during *rabi* season of 2019-20
- Observations recorded on 5 randomly selected plants from each variety of each replication for growth and yield characters

Results and discussion

- In the present study all the characters showed significant variation among all the varieties (Tab. 1) Plant height was maximum in GF 12 (162.49 cm) whereas RF-157 took less days for 50 % flowering
- Primary branches plant^{-1} (8.93),umbels plant^{-1} (28.53), umbellate umbel^{-1} (35.00), seeds umbellate^{-1} (30.35) and seed yield plant^{-1} (30.11 g) recorded highest in RF-281 followed by RF-125 which found suited under this zone
- Variation in fennel varieties for above characters were similarly quoted by Patel *et al.*, Yogi *et al.*

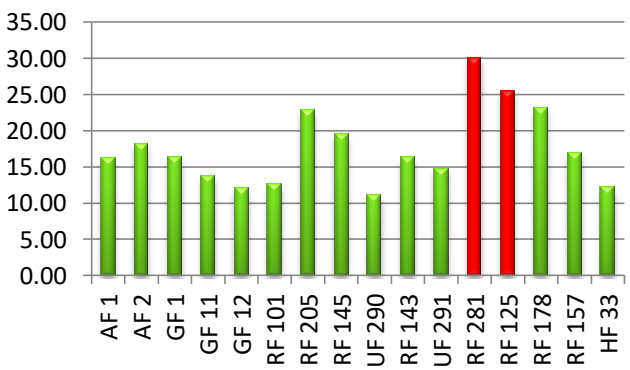

Fig 1: Variation in seed yield per plant in fennel varieties

Treatment	Plant height (cm)	Primary branches per plant	Days to 50% flowering	Umbels per plant	Umbellate per umbel	Seeds per umbellate	Dry weight of plant (g)
AF 1	150.27	8.74	95.67	12.47	25.67	26.50	121.43
AF 2	151.78	8.33	95.33	13.32	27.93	25.47	137.93
GF 1	153.24	7.73	97.33	12.37	23.00	29.45	113.24
GF 11	158.67	7.84	95.00	12.73	15.87	20.27	124.00
GF 12	162.49	8.46	94.67	12.35	14.67	17.50	115.74
RF 101	151.75	7.83	92.67	12.43	17.93	24.27	130.90
RF 205	134.59	7.40	88.33	15.15	19.87	23.27	119.97
RF 145	140.67	8.57	89.33	20.83	22.00	18.43	147.15
UF 290	138.95	8.60	92.00	13.64	25.60	23.98	145.10
RF 143	144.45	8.47	89.83	15.07	24.40	23.67	140.16
UF 291	153.88	8.07	91.67	13.30	25.67	25.80	137.63
RF 281	143.89	8.93	89.67	28.53	35.00	30.35	166.78
RF 125	135.08	7.90	90.83	20.01	26.80	23.73	152.00
RF 178	136.50	8.40	93.93	15.21	22.60	22.57	144.82
RF 157	137.85	8.43	86.17	13.13	25.93	26.87	137.11
HF 33	145.77	8.87	101.67	12.68	22.50	22.83	139.07
F-test	*	*	*	*	*	*	*
SEm±	2.16	0.11	0.97	1.10	1.24	0.87	1.75
CD at 5%	6.82	0.35	3.74	2.92	1.05	0.97	5.70

Table 1: Mean of growth and yield parameters in fennel varieties

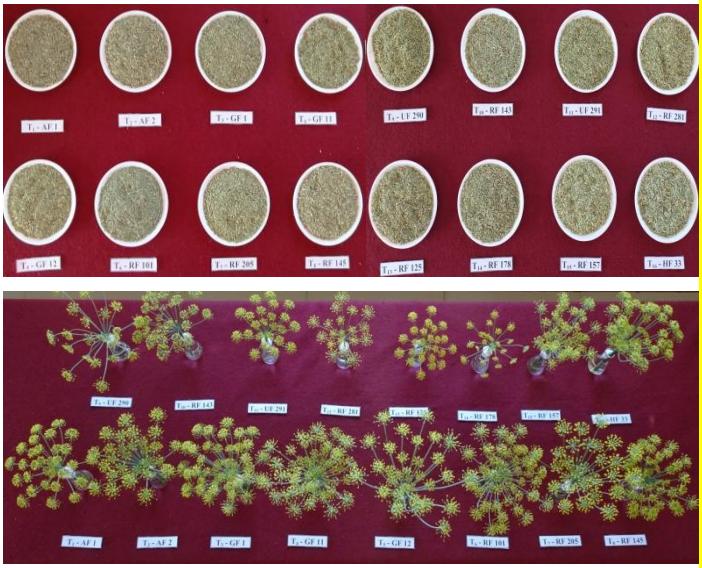

Fig 2: Variation in seed morphology and inflorescence in fennel

References

Patel, D.G., Patel, P.S. and Patel, I.D. 2008. Studies on variability of some morphological characters in fennel (*Foeniculum vulgare Mill.), J. Spices and Aromatic Crops,* 17(1):29-32.

Yogi, R., Meena, R. S., Kakani, R. K., Panwar, A. and Solanki, R. K. 2013. Variability of some morphological characters in fennel. *Int. J. Seed Spices,* 3(1): 41-43.

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