



Full Length Research Article

EVALUATION OF GYMNEMA ECOTYPES

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ABSTRACT

The study on evaluation of *Gymnema* ecotypes was conducted in Department of Horticulture, Faculty of Agriculture, Annamalai University. A total number of seven accessions Wee Coimbatore. Plaghat Perambalur, Annaikatti, Vellanikara, Kanjicode, Panniyur were collected from Tamil Nadu and Kerala. They were established in the pot culture and evaluated for certain morphological characters like plant height, number of vein per plant, number of leaves per plant, internode length, leaf area, plant fresh and dry weight were recorded 4 months of planting. The ecotypes (GS-1) Coimbatore performed better recording maximum plant height of 113.29cm no. of leaves/ plants (115.72), No. of veins/plant (17.43), leaf area (10.72 cm²), plant fresh weight (1.364 kg) and plant dry weight (0.662 kg). This was followed by (GS-3) perambalur.

Key words: *Gymnema*, Exotype, Sirv. Kurinchan.

INTRODUCTION

Gymnema, which is commonly known as Sirukurinchan (*Gymnemasylvestre*) of the family Asclepiadaceae. It is a large, more pubescent, laticiferous woody climber which is found in the Deccan peninsula extending to, the parts of northern and western India. The leaves of these species are opposite, usually elliptic (or) ovate. Flowers are small, yellow coloured umbellate cymes, follicle terrate, lanceolate and upto three inches in length. The leaves possess active principles which are reported to have properties of reducing blood sugar and are used as an antidiabetic agent in Indian system of medicine.

MATERIALS AND METHODS

The study was conducted in Department of Horticulture, Faculty of Agriculture, Annamalai University. A total number of 7 accessions like Coimbatore, palghat, perambalur, Ananikatti. Vellanikara, Kanjicode, Panniyur were collected from Tamilnadu and Kerala. They were established in the pot culture and evaluated for certain morphological characters like plant height, no. of veins / plant, no. of leaves per plant, internode length, leaf area, plant fresh weight and dry weight were recorded 4 months of planting. Ten plants were taken as unit of treatment and each treatments was replicated thrice in randomized block design.

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RESULTS AND DISCUSSION

The results of the experiment are presented in table 1. The results showed that (GS-1) Coimbatore had recorded the maximum plant height (113.29cm) and number of leaves/plant (115.72). This was followed by (GS-3) Perambalur. * Department of Horticulture, Faculty of Agriculture, Annamalai University, Annamalai Nagar. The ecotype (GS-1) Coimbatore recorded the highest leaf number (115.72) and the lowest number of leaves / plant (78.04) was recorded in (GS-5) vellanikara. Internode length ranged from 17.58 cm to 12.98 cm and was found to be highest in the accession (GS-1) Coimbatore. There existed significant differences among the accessions for number of veins / plant the maximum and minimum being which Coimbatore and Vellanikara respectively. The accession Coimbatore recorded significantly higher leaf area of 10.72 cm² and it was minimum in (GS-5) vellanikara (3.04 cm²). The accession Coimbatore recorded the highest plant fresh weight (1.364kg) while the other accessions had a range of 1.208kg to 0.428kg and the differences between the accession were significant. The differences in the number of seeds / follicle were significant and it ranged from 3.72 to 7.56 and maximum being in the accession GS-1 7.50 The accession GS-1 recorded significantly higher seed length of 1.84 cm and it was minimum in GS-5 (1.12 cm). The number of follicle / plant 260.81). The accession GS-1 was identified for high dry weight of plant 662.1 gm per plant, percentage of fruit set (6.42%) and number of flowers per umbel (26.78) were high in the accession GS-1. However the differences attained the level of significance only with percentage of fruit set and number of flowers per umbel.

Table 1. Evaluation of *Gymnema* eco types

Accessions	Plant ht (cm)	No. of leaves per plant	Internode length (cm)	No. of veins per plant	Leaf area (cm ²)	No. of seeds per follicle	Seed length (cm)	No. of follicle per plant	%of fruit set	No. of flowers per umbel	Plant Fresh wt (kg)	Plant Dry wt (kg)
GS-1 Coimbatore	113.29	115.72	17.58	17.43	10.72	7.56	1.84	260.81	6.42	26.78	1.364	0.662
GS-2 Palghate	99.87	103.16	15.74	14.29	8.16	6.28	1.60	218.55 I	5.66	23.86	1.052	0.510
GS-3 Perambalur	106.58	109.44	16.66	15.86	9.44	6.92	1.72	239.68	6.04	25.32	1.208	0.586
GS-4 Ananikatti	79.74	84.32	12.98	9.58	4.32	4.36	1.24	155.16	4.52	19.48	0.584	0.282
GS-5 Vellanaikara	73.03	78.04	12.06	8.01	3.04	3.72	1.12	134.03	4.14	18.02	0.428	0.206
GS-6 Kanjicode	86.45	90.60	13.90	11.15	5.60	5.01	1.36	176.29	4.90	20.94	0.740	0.358*
GS-7 Panniyur	93.16	96.88	14.82	12.72	6.88	5.64	1.48	197.42	5.28 i	22.40	0.896	0.434
CD	4.39	3.81	0.48	0.64	0.96	0.42	0.8	8.64	0.21	1.21	0.127	0.048
S.Ed	2.18	1.89	0.23	0.32	6.47	0.20	0.3	4.31	0.10	0.2	0.061	0.023

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