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Stolon characteristic of *Hemarthria Compressa* in the southwest of China

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Key words stolon characteristic, *Hemarthria Compressa*, wild types, forage, diversity

Introduction *H. Compressa*, planted in tropical and sub-tropical areas, is an excellent grass for stockbreeding. Many kinds of wild plant resources in southwest China, may serve as genetic resources for selection and domestication of new forage strains, such as for turf greening, water and soil conservation, side slope protection and artificial grassplots (Wu Y. Q. et al 200).

Material and methods Sixty wild types of *Hemarthria Compressa* were collected from southwest China. Stolon or stolon growth were defined as follows: when the angle between stem and the soil surface was less than 15° or there was a root on the stem node. The natural height and stolon length of each plant were measured 45 days after regeneration. The mean value of 30 measurements within each wild type was recorded. The morphological index of stolon was defined as the ratio of stolon length to natural height.

Results Significant differences in natural height and stolon length were observed (Table 1). Figure 1 came from a spot cluster-analysis. Most of them had a stolon morphological index in the range of 1~4. There was no significant correlation between the stolon index and the altitude where it was collected with $r = -0.03592$ ($P > 0.5$). Figure 2 presented the relationship between the natural height (x axis) and stolon index (y axis). The stolon index of these wild *Hemarthria Compressa* groups is highly negatively correlated to natural height, with a correlation coefficient of -0.71945 ($P < 0.0001$).

Table 1 The Coefficient of Variation of Natural Height, Stolon Length and Morphological Index.

Item	STD	MAX(cm)	MIN(cm)	MEAN(cm)	SD	CV(%)
Nature Height	19.98	122.5	5.30	46.88	35.16	42.62
Stolon Length	21.19	165	63.70	112.28	5.49	18.87
Morphological index	1.61	12.08	1.13	2.88	4.03	55.81

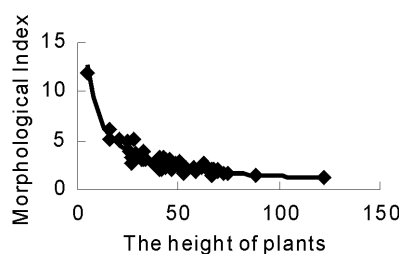


Figure 1 The relation of the morphological index and plant height.

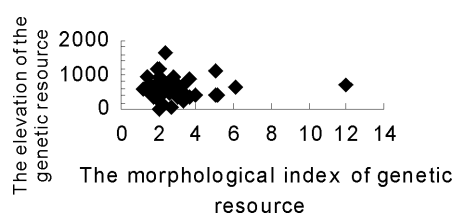


Figure 2 The relation of morphological and the altitude.

Conclusions The expansion of *H. Compressa* is different in different growth stages. Moreover, the stolon characteristic is obviously correlated to the density of the population. These may serve as genetic resources for selection and domestication of new forage strains, such as for turf greening, water and soil conservation, side slope protection and artificial grassplots.