

Summary

At the experimental station at Itajaí, Santa Catarina, Brazil, 24 morphological characters

were evaluated for their usefulness in identifying the cultivars of *Pennisetum purpureum* Taiwan A-148, IJ 7125, and IJ 7127. Eighteen mature stems, taken from plants planted in two random blocks, were analyzed.

Those characters that were first found as significant ($P < 0.01$) were given a variance analysis. The number of stems were reduced to 18, 9, 6, and 3 in 17 possible arrangements in two repetitions.

The characters of diameter of inflorescence and length of ligule presented highly significant F values ($P < 0.01$) for the 17 arrangements. The color of the inflorescence, hairiness of the lower and upper surfaces of the third and fifth leaves, ligule color, and shoots' growth habit were also useful for distinguishing between the three cultivars.

The methodology used, consisting of reduction in plant numbers, was appropriate to the goals of the trial.