GRADING OF SHADE TREE SAPLINGS IN THE COMMERCIAL NURSERIES

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Introduction

High demand for planting material has resulted in short supplies of shade tree species, where poor planting stocks are also being supplied for landscaping. This situation arises due to the absence of criteria to isolate the good material from the lesser ones. Nelson (1991) noted that the selection of quality planting material for landscape planting is essential for good growth, ease of maintenance, aesthetic, and consumer satisfaction. The grading of good looking tree depends on the upright trunk formation with a well developed root system and perfect crown, whereas the survivability is closely related to their toughness or inherent capacity to endure stress (Ware, 1994). In addition, the vigour of trees is also related to its susceptibility to stress conditions and several factors that can predispose tress to stress (Clark and Matheny, 1994). This study was conducted to develop criteria for sapling grading guideline based on vigour, size, and health, and also to categorise the existing stocks in selected commercial nurseries and in selected new-planted sites in terms of quality.

Materials and Methods

Eight morphological characteristics of tree species were used to develop a grading guideline for nursery plants, such as foliage condition, foliage density, crown configuration, stem straightness, stem erectness, stem condition, pest and diseases, and visual overall condition. A rating scale was given to the sapling based on the quality of each characteristic ranging from 1 to 4 with the larger value corresponding to better quality. A certain value was obtained based on the total point given to determine the overall quality, which was classified into five classes of I, II, II, IV, and V. These classes were subsequently reduced to 3 grades namely A, B, and C for easy to use in the field. A grade is the best, followed by the acceptable and rejectable of grades B and C, respectively. To achieve such an objective, the rating scale was also being used to rate the sapling quality in the nursery and the field. Three nurseries were chosen with the total number of 1879 saplings obtained from 17 species. Whereas 388 newly planted saplings were observed in the field.

Results and Discussion

From the total number of 1879 saplings, 814 saplings (43.3%) were rated in the A grade, whilst 582 (30.9%) and 483 (25.7%) saplings were rated in grades B and C, respectively. In the field study, the A grade consisted of 190 saplings (49%), whilst 106 (27.3%) and 92 (27.7%) saplings were in grades B and C, respectively. From the rating done in the commercial nurseries, the available saplings were considered of mixed quality. The comparison results showed that more trees were graded in better grades compared to visual grading, which tends to be more strictly by putting more individuals in lower grades.

Conclusions

The nurseries tend to produce and sell low quality saplings to the customers mostly in form of wholesale. Furthermore, the available saplings grown in the landscape were also not properly cared and maintained. Hopefully, a more systematic and efficient way of assessment could be done based on this study.

References

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