

D-20: Effects of shade and nitrogen application on the productivity of *Chrysopogon aciculatus* and *Cynodon dactylon*

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Present paper reports the results of a pot experiment conducted indoors in 1995 to study the response of *Chrysopogon aciculatus* and *Cynodon dactylon* to light and nitrogen treatments. Plants were grown in plastic pots filled with red yellow podzolic soil, and the experimental design was a factorial with 2 species, 2 light transmissions (full sun and 50% shade), 2 nitrogen levels (application of 50 kg urea/ha and no application) and 4 replications.

Each species produced dry matter yield of approximately 3.5 mt/ha during the 3 months of growth. 50% shade did not effect the total dry matter yields of both species significantly. However, while shade increased the dry matter yield of the leaf component, that of the stem was decreased. Under the full sun and no application of nitrogen, a condition usually applicable to most of our playgrounds, the yield of *Chrysopogon aciculatus* and *Cynodon dactylon* were nearly 2.9 and 2.4 mt/ha respectively, but the difference was not significant at 5% probability level.. Application of nitrogen increased the dry matter yields of both *Chrysopogon aciculatus* and *Cynodon dactylon* by 31% and 91% respectively.

It is concluded that both species produce relatively low amounts of dry matter (a better quality turf species) under environmental conditions prevailing in most of our playgrounds. It appears that the natural establishment of *Cynodon dactylon*, which is a non-obnoxious turf species, can be enhanced by the application of urea into the *Chrysopogon aciculatus* dominating turf of the playgrounds