

Selection of a seeding Swazi grass

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Introduction

Swazi grass (*Digitaria didactyla* syn *Swazilandensis* Stent) is a mat forming, strongly stoloniferous perennial grass, native to southern Africa. Leaves are coarser than and not as blue as Queensland blue couch (*Digitaria didactyla* Willd).

Swazi grass has many attributes that make it a desirable species for pasture improvement on the sub tropical coast.

Swazi grass produces much more bulk than Queensland blue couch. For example, between February and April 2009 the authors measured dry matter production of around 12,000 kg/ha in three months in fertilised (50 kg N/ha watered in) rain-fed plots at Grafton.

In 1979 a cultivar of Swazi grass (later released as the turf grass Aussibblue) was used as one of the improved pastures species in a grazing experiment at Fineflower north west of Grafton. This experiment assessed weight gain by cattle on various improved pastures and fertiliser regimes on duplex soils which are common in the Clarence. Swazi grass in a dry period was able to maintain live weight during spring where native or bahia grass (*Paspalum notatum*) plus clover pastures did not (Garden and Dicker 1981).

Observations by the authors suggest that Swazi grass has the ability to combine well with a wide range of legumes, including Trifolium, Arachis, Aeschynomene, Stylosanthes, Lotus and Lotononis species.

Observations by the authors suggest that Swazi grass will successfully resist invasion by bahia grass and even spread into bahia patches.

The mat forming habit of Swazi grass enables it to be the best pasture species competitor for

control of giant Parramatta grass (*Sporobolus fertilis*) (Officer and Launder 1998).

Swazi persists under continuous grazing on the light soils of the NSW North Coast and because of its palatability is often kept like a lawn. Swazi grass grows well on a range of soil types and does well in both wet and well drained areas.

Use of Swazi grass has been limited because it has had to be spread vegetatively. Work is currently underway at Grafton to select a commercial line of high seed yielding Swazi grass.

Method

A series of Swazi grass samples were collected in Southern Africa in 1969/70. Twenty four vegetative lines from a 1978 planting at "Schonbeins" (a property north of Grafton) plus 4 lines (CPI 40639 (Aussibblue) (Scattini 2001), 40674, 40676 and 8493 established in 1993 by Alison Bowman were evaluated at Grafton during 1998/9. Only CPI 40674 and 40676 produced significant amounts of viable seed. A decision was made to proceed with further evaluation of 40674.

Seedlings of CPI 40674 (n=216) were grown in 1999/00 and individual plant seed yields were recorded. The twenty best seed yielding plants were planted into separate 14 x 4m plots as cuttings in October 2001. The daughter seed of these twenty selections were germinated in trays and planted out as seedlings in similar sized plots. Control plots from both vegetative and seedling sources of the parent material were also established.

The vegetative and seedling plots allowed comparison between the parent and daughter lines in both seed and dry matter yield. Seed harvests have been made periodically since 2000 from an increasingly more select group of lines.

A final selection decision whether or not to proceed with commercialisation of Swazi grass will be made this year based on the 2009 and previous years seed harvests. Currently the most promising lines are being evaluated for dry matter yield, quality and seed viability and yield.

References

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