

Register of Australian Herbage Plant Cultivars

A. Grasses

10. Pennisetum

Pennisetum clandestinum Hochst. et Chiov. (Kikuyu grass) cv. Noonan

Reg. No. A-10c-4

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Origin

Originated from single plant 'W2' selected in 1972 by G.P.M. Wilson at Grafton Agricultural Research Station, New South Wales Department of Agriculture. It was one of seven single plants chosen for further study from 200 plants grown under glasshouse conditions, from seed of open-pollinated Whittet and Breakwell populations. The original plant was clonally propagated to plant one seventh hectare for breeders' seed production. Initially, Noonan was selected because it had a propensity to flower and set seed without stimulative clipping, and a growth habit intermediate to Whittet and Breakwell. Limited sampling also showed that it had a higher dry matter yield during the cooler months than other selections from open-pollinated Whittet, and a higher seed yield than open-pollinated selections from Breakwell.

However, Noonan was ultimately selected for its high field tolerance to kikuyu yellows, a disease caused by an undescribed Phycomycete, with some affinities with *Achyla* (5). Submitted by the New South Wales Department of Agriculture and recommended for registration by the New South Wales Herbage Plant Liaison Committee. Breeders' seed will be maintained at the Grafton Agricultural Research Station, New South Wales Department of Agriculture. Registered March 1983.

Morphological description

Similar to Whittet. Mature swards of the two cultivars cannot be satisfactorily distinguished from each other by morphological features. However, differences can be recognised between 3-4month-old single plants grown under glasshouse conditions. For example, in one study, Noonan plants were c. 25% shorter, had 20% more tillers, 40% more leaves and 48% more stolons than Whittet plants. The leaves and stolons of Noonan were 25% and 35% shorter respectively than those of Whittet.

Noonan is more uniform than Whittet and is broadly intermediate in appearance to Whittet and Breakwell. All Noonan plants are male and female fertile.

Agronomic characters

Principle merit is a high degree of field tolerance to 'kikuyu yellows' disease. This tolerance was examined further by Dr. P. Wong using pure cultures of the pathogen in replicated inoculation tests in the glasshouse. While Whittet, Breakwell and several breeding lines showed moderate disease at low levels of inoculum, Noonan was free of disease. At high levels of inoculum, only one out of three replicate pots of Noonan showed a few diseased shoots, while nearly all shoots of the other varieties and breeding lines were severely diseased in all three replicates. Some replicates of Whittet, Breakwell and some breeding lines completely died out after three months (5,6).

Field observations over a number of years at Grafton on the disease free growth of Noonan on land infested with 'kikuyu yellows' suggest that the level of inoculum used in the glasshouse tests was unnaturally high and is seldom experienced in the field. Noonan has superior field tolerance to kikuyu yellows to Whittet and Breakwell (6). Noonan flowers earlier than Whittet and Breakwell. The uniform growth and flowering of Noonan together with its propensity to flower without stimulation by clipping might simplify the management of seed crops by reducing the number of pre-harvest mowings. High yields of seed of Whittet and Breakwell can only be achieved through frequent precise, leaf-tip mowing.

References

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