

Register of Australian Herbage Plant Cultivars

B. Legumes

9. Annual medics

(d) *Medicago tornata* (L.) Mill. var. *spinulosa* (disc medic) cv. Rivoli

Reg. No. B-9d-4

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Origin

Rivoli is a selection from a line of *Medicago tornata* collected by M. J. Mathison, South Australian Department of Agriculture, in 1974. It occurred as a volunteer on the edge of a eucalypt forest 10 km south of Kenitra, on the road to Rabat, in Morocco. Seed was received by the South Australian Department of Agriculture in 1974 and designated S.A. 9490.

In 1975 Rivoli was selected from S.A. 9490 by E. J. Crawford at the Parafield Plant Introduction Centre on the basis of a leaf marker and lateness of flowering, and designated S.A. 9553. It has since been evaluated on the calcareous sands at several sites near Robe in the South East of South Australia in 1983–88.

Seed from the Parafield Plant Introduction Centre was increased in isolation at Struan Research Centre in 1988. Breeders' seed will be maintained by the South Australian Department of Agriculture. Rivoli was submitted for registration by the South Australian Department of Agriculture and recommended for registration by the South Australian Herbage Plant Liaison Committee.

Morphological description

Rivoli is an annual herb, procumbent and 15–30 cm high. Branches, leaflets, stipules and peduncles sparsely hairy. Stipules variable in shape with margins lacinate (Heyn 1963). Young leaflets with white and purple flecks with the purple flecks being most evident at low temperatures. Leaflets 10–20 mm long, 5–12 mm wide, obovate to obovate-cuneate, upper half of leaflet with serrate margin. Peduncle much longer than petiole with 5–8 flowers crowded in inflorescence. Flowers up to 8 mm long. Young pod concealed within calyx. Differs from cv. Tornafield in that pod is ovoid to lentiform, mostly spineless to slightly spinulate and has 4–6 coils. Pod 5–8 mm in diameter. Whorls of pod predominantly anticlockwise, with some clockwise suggesting segregation. Seed

coat smooth, yellow to yellow-brown, seed 2–3 mm long. Approximately 230 000 seeds/kg.

Agronomic characters

Rivoli has been selected for use in permanent pasture on the calcareous sands of South Australia. At Robe, with a June sowing, it flowers 13–15 weeks after germination, 5–7 days later than Tornafield disc medic.

Rivoli establishes well in the year of sowing and regenerates well in succeeding years. It also establishes well in weed-dominated pasture and sown pasture mixes. Both Paraggio barrel medic and Tornafield disc medic have regularly failed to regenerate in the second year at Robe due to a high level of hard seed. Harbinger strand medic has also failed to regenerate in the second year. In the first year, the herbage production of Rivoli is similar to Tornafield, Harbinger and Paraggio, but in the second and third years Rivoli has consistently produced at least twice as much dry matter as Tornafield and Paraggio, and at least 30% more than Harbinger. In 1985, at Robe, Rivoli remained green and continued flowering into November when Tornafield, Paraggio and Harbinger had dried off.

Rivoli nodulates effectively with commercial group A inoculum (CC169). The tolerance of Rivoli to white snails [*Theba pisana* (Muller), *Cermeuella virgata* (da Costa), and *Cochlicella barbara* (L.)] is superior to Paraggio barrel medic and Hunterfield lucerne and is similar to Tornafield disc medic and Harbinger strand medic. Rivoli has low resistance to blue-green aphid [*Acyrtosiphon kondoi* (Shinji)] and moderate resistance to spotted alfalfa aphid [*Therioaphis trifolii* (Monell) f. *maculata*] and is susceptible to attack from redlegged earth mite [*Halotydeus destructor* (Tucker)].

As the pod of Rivoli is predominantly spineless, it will not contaminate wool and is easily threshed with conventional suction harvesters. Seed yields of up to 1000 kg/ha have been measured at trial sites at Robe. In a coastal environment Rivoli has over 95% hard seeds at maturity, reducing to 60% by April. Only trace levels of coumestrol are present in Rivoli (P. G. H. Nicholls, pers. comm.).

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Reference

Heyn C.C. (1963) The annual species of *Medicago*. *Scripta Academic Hierosolymitana* 12, 1–154.