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Establishment of Progardes® Desmanthus

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Progardes® Desmanthus is a pasture legume blend of selected JCU cultivars for neutral to alkaline clay soils in semiarid subtropical/tropical regions. Project CRC P 58599 investigated blade ploughing and herbicide methodologies for establishing this legume on a broadacre scale.

Method 1: In 2017 a 420 ha Gidgee land type paddock near Hughenden, Northwest Queensland was blade ploughed and stick raked and aerial seeded to Progardes® at 3kg/ha.

A Botanal survey in March 2021 found that the Desmanthus established at 1 plant/m² with a composition (by weight) of 28% and a frequency of 21% with 0.27 seedlings/m².

Method 2: In 2019 a 500ha buffel grass pasture on a Brigalow land type near Springsure in Central Queensland was aerielly sprayed with Glyphosate followed by aerial seeding of Progardes® at 3kg/ha.

Botanal surveys in July 2021 found 1.05 Progardes plants/m² with a 28% (by weight) composition and a frequency of 48% with 0.52 seedlings/m².

Blade ploughing and aerial seeding of Progardes® has proved successful in establishing the legume on a Gidgee land type despite below average rainfall. In the Brigalow region the aerial application of Glyphosate and aerial seeding of Progardes® has also produced successful establishment. Further calibration of herbicide rates is recommended to refine the most desirable application rate for the initial suppression and later regeneration of the grass species. The successful establishment of Progardes® at both sites is attributed to reduced grass competition, stored soil moisture, the presence of dead or suppressed ground cover, and the good agronomic traits of Progardes.

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Establishment of Progardes® Desmanthus



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Introduction: Progardes® is a pasture legume blend of selected Desmanthus cultivars for neutral to alkaline clay soils in semiarid subtropical/tropical regions. Project CRC-P 58599 investigated knowledge gaps in legume establishment across semiarid clay soil regions of Northern Australia. Among other establishment methodologies, blade ploughing/aerial seeding and herbicide application/aerial seeding of Progardes® on a broadacre scale were investigated.

Methods & Results: 1. In 2017 a 420ha Gidgee land type paddock near Hughenden, with a 475mm mean annual rainfall was blade ploughed, stick raked and aerial seeded to Progardes® at 3kg/ha. A Botanal survey in March 2021 found the Progardes® established at 1 plant/m² with a composition of 28% & frequency of 21% plus 0.27 seedlings /m².



Progardes®/buffel paddock, Hughenden. 21° 09' S 144° 21'E

2. In 2019 a 500ha buffel grass pasture on a Brigalow land type near Springsure, Central Qld. with a 590mm mean annual rainfall was aerially sprayed with Glyphosate followed by aerial seeding of Progardes® at 3kg/ha. Botanal surveys in July 2021 found 1.05 Progardes® plants/m² with a composition of 28.1% and a 48% frequency, plus 0.52 seedlings/ m².



Progardes®/buffel, Central Qld. 24° 36' S 147° 16'E

Conclusion/Discussion: The successful establishment of Progardes® at both sites is attributed to reduced grass competition, stored soil moisture, the presence of dead or suppressed ground cover/mulch, and the good agronomic traits of Progardes® including its; tap root, drought tolerance, persistence, hard seed and seedling recruitment.

