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The CB R*hizobium/Bradyrhizobium* strain collection

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(This GRC replaces and updates GRCs Nos 5, 6, 7, 16 and 17)

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The CB R*hizobium*/B*radyrhizobium* strain collection

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Abstract

This is a catalogue of 599 strains of *Rhizobium* and *Bradyrhizobium* available from CSIRO Tropical Agriculture, Brisbane, Australia. The catalogue is in four parts: The first is a list of strains of *Rhizobium* and *Bradyrhizobium* by accession number and includes brief information concerning origin and growth characteristics. The second is an inverse list by host species. The third and fourth are summaries, respectively, of accumulated effectiveness assays and performance information. Two appendices describe the method of vacuum-drying cultures for long-term preservation and a list of prefixes and acronyms used in the catalogue.

Keywords

Rhizobium, *Bradyrhizobium*, rhizobia, inoculation, nitrogen fixation, root-nodule bacteria, freeze-drying, tropical legumes, genetic resources

Introduction

CSIRO Tropical Agriculture (CSIRO/TAG) has played and continues to play a prominent role in the introduction and evaluation of new crop and forage legume germplasm for northern Australian agriculture. Associated with this has been the parallel introduction and evaluation of appropriate nitrogen fixing root-nodule bacteria (RNB). In this catalogue we use the name *Rhizobium* to include the genera *Rhizobium*, *Mesorhizobium* and *Sinorhizobium* and the name *Bradyrhizobium* to include the genera *Bradyrhizobium* and *Azorhizobium* as described by Martinez-Romero and Caballero-Mellado (1996) and Young (1996). CSIRO/TAG has supplied effective nitrogen-fixing strains for use in experimental programs and in primary industry. All 18 of the strains currently recommended for inoculation of tropical crop and forage legumes in northern Australia result from CSIRO/TAG evaluation programs. Fourteen of these strains originate directly from specifically targeted CSIRO/TAG genetic resource collection, isolation and germplasm preservation activities. Evaluation follows a four-phase assessment schedule. The first determines nodulation specificity in N-free bacteriologically controlled axenic plant culture, usually in test-tubes as described by Norris and Date (1976). The second phase determines host legume x strain of RNB genotype-interactions for ability to fix nitrogen relative to a nitrogen control, again in axenic plant culture conditions using the modified Leonard-jar technique described by Norris and Date (1976). A selection of strains from these assessments is then tested in several soils in glasshouse soil-pot experiments to evaluate nodulation and N-fixation abilities in the presence of other soil micro-organisms, especially other RNB that may compete for nodule forming sites on the roots (Phase 3, e.g., Date 1991). The most successful strains from these tests are finally evaluated in the field (Phase 4, e.g., Bushby *et al.* 1983) before being recommended for commercial use. Recommended strains are transferred to industry via the Australian Inoculants Research and Control Service (AIRCS).

The CSIRO/TAG collection of RNB for tropical and sub-tropical legumes forms part of the Australian Tropical Forages Genetic Resource Centre (ATFGRC). The RNB collection began in 1956 when Dr D.O. Norris commenced his studies on defining the nodulation and nitrogen fixing requirements of potentially useful legumes imported from other parts of the world. New germplasm of strains of RNB for *Desmanthus, Leucaena* and *Stylosanthes* has expanded the collection significantly during the 1990s.

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The germplasm bank now contains 4971 authenticated strains of *Rhizobium* and *Bradyrhizobium* associated with 97 genera and 401 species of crop and forage legumes. The distribution of strains representing genera and species is indicated by the information summarized in Table 1. The collection contains strains isolated from both indigenous and introduced legumes within Australia as well as strains isolated from nodule material collected specifically in those regions of Africa, Central and South America from which most of ATFGRC's plant germplasm originates.

This catalogue lists those 599 strains that have been evaluated and found effective in nitrogen fixation with one or more legume hosts in glasshouse sand-jar (Norris and Date 1976) and soil-pot tests (e.g., Date 1991). Information related to effectiveness is summarized in the fourth part of this catalogue.

All cultures in the collection germplasm bank are maintained freeze-dried in vacuum-sealed ampoules that are stored at room temperature (20-25°C). The method of preservation is a modification of the procedure described by Vincent (1970), and is similar to that described by Dye (1980). Details are described in Appendix I.

The CB Collection is listed in the World Directory of Collections of Cultures of Microorganisms (World Data Center for Microorganisms 1993) as Registration Number 57, and has the Australian *Rhizobium/Bradyrhizobium* Collection identifying acronym CB (CSIRO, Brisbane). Information for a limited number of strains is included in the World Catalogue of *Rhizobium* Collections (UNESCO/UNEP 1986).

This catalogue is in four parts.

The CB accession list (pp. 7 –17)

The 599 strains of RNB in this catalogue are listed in accession number order. No distinction is made between *Rhizobium* (generally fast-growing) and *Bradyrhizobium* (generally slow-growing) (Jordan 1984). The headings **Original Label, Host Legume, Country** and **Town** provide brief provenance information. **Original Label** signifies the label or number of a strain received from another laboratory or project. Where no original label is indicated, those strains were isolated by CSIRO Tropical Agriculture. Explanation of the prefixes used is provided in Appendix II. **Host Legume** indicates the legume from which nodules were obtained to isolate the strain. **Growth** and **Reaction** refer to the general rate of growth and the culture medium pH when grown in a standard yeast-mannitol medium (Vincent 1970). **Growth** is recorded as either 'fast' (2-3 days), 'intermediate' (3-5 days), 'slow' (5-7 days) or 'very slow' (10-14 days) for a strain to achieve maximum colony size on agar or growth in liquid medium. **Reaction** is final pH expressed as 'acid', 'neutral' or 'alkaline', relative to the starting level (pH 6.8-7.0), at the end of the growth period (Norris 1965). We use the information listed under **Growth** and **Reaction** as a general guide to a strain's behaviour. Many strains react differently with small changes in medium composition and growth condition (Date and Halliday 1979). This list updates and replaces equivalent lists in Genetic Resources Communication Nos 5 and 16 (Date *et al.* 1984; Date and Williams 1993). Further information relating to N-fixation performance of those strains marked with a hatch (#) can be found in the List of Strains of RNB with Published Performance Information in this catalogue.

The host list (pp. 19 –22)

This is an alphabetical list of host legumes corresponding to the strains of *Rhizobium* and *Bradyrhizobium* in the CB Accession List. The strains isolated from each species are listed after each plant name. They represent 47 plant genera and 148 species.

List of legumes and strains of RNB forming effective N-fixing associations (pp. 23 –46)

This list reports the results of Phase 2 tests for the 1953-1997 period and updates and replaces the information in Genetic Resources Communications Nos 6, 7 and 17 (Bushby *et al.* 1984; Date and Norris

1984; Date *et al.* 1993). Nitrogen fixation effectiveness assessments for all legumes other than *Stylosanthes* were completed in axenic culture conditions using an N-free nutrient medium in the "sand-jar" system of Norris and Date (1976). For *Stylosanthes* a nutrient solution with lower levels of P and Ca (Date and Ratcliff 1989) was used. Nitrogen for plus N controls was supplied as KNO_3 at a rate equivalent to 35 to 50 kg N/ha (in 3 split-applications) depending on the bulk of growth normally expected for the test species. For tropical legume species, assessments were carried out in late spring to early autumn when glasshouse air temperatures were maintained between 25 and 35°C with supplementary heating and evaporative cooling with a minimum of 14 h daylight. For winter-growing species air temperatures ranged between 15 and 25°C with a minimum of 10 h of daylight. Supplementary (incandescent) lights were used to extend daylength where necessary to prevent early onset of flowering. Effectiveness of the association between each host accession and strain of RNB was based on dry weights of plants relative to those of the plus N control after 6 to 8 weeks growth. Plant dry weight has been previously observed to be a good index of symbiotic effectiveness (Erdman and Means 1952; Dye 1980; Gibson 1980; Haydock *et al.* 1980). We calculated symbiotic effectiveness (%) as

(Dry weight +RNB)/(Dry weight +N) * 100

where (Dry weight +RNB) = dry weight of whole plants inoculated with either *Rhizobium* or *Bradyrhizobium* and (Dry weight +N) = dry weight of plus nitrogen control plants. Strains were rated as highly effective (HE), effective (E), partially effective (EI) and ineffective (I) when the effectiveness index values were respectively ≥80, ≥50-79, ≥35-49 and <35%.

In all there were 13738 individual tests (excluding replication) involving 728 strains of which 599 formed an effective association with at least one legume host. The following lists report only those host x strain combinations with HE or E results. There were 5900 such combinations. The information is in host order with the associated strains of RNB listed by CB number after each combination. Details of the origin of each strain are available in The CB Accession List of this communication.

List of strains of RNB with published performance information (pp. 47 –56)

This part of the catalogue tabulates accumulated notes on N-fixation performance and ecological adaptability of 64 strains from the collection. References documenting those characteristics are appended to the list. Strains marked with an asterisk (*) are available commercially in Australia as peat-based inoculant. If used in other countries some caution should be exercised to ensure that they are compatible with local host legume genotypes. They may not form effective associations with all lines, varieties and accessions of the indicated species since strong host by strain specificities are well known in some genera (Brockwell *et al.* 1982; Date 1991; Lesueur *et al.* 1998).

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Table 1. Summary of the number of strains of *Rhizobium* and *Bradyrhizobium*, plant genera and species represented in the CB germplasm collection. The numbers of species and strains presented in this catalogue are shown in parentheses. Genera in bold type are those for which nitrogen fixation effectiveness data are available.

Legume Genus	No. species (of legume)		No. strains (of RNB)		Legume Genus	No. species (of legume)		No. strains (of RNB)	
Abrus	1		4		***Leucaena***	10	(9)	147	(135)
Acacia	21	(3)	18	(4)	***Listia***	1	(1)	1	(1)
Adesmia	2		1		*Lonchocarpus*	1		1	
Aeschynomene	5	(1)	6	(5)	***Lotononis***	9	(6)	35	(23)
Albizia	1		2		***Lotus***	8	(3)	13	(4)
Alysicarpus	7	(1)	11	(1)	*Lupinus*	5		6	
Andira	1		1		*Machaerium*	1		1	
Anthyllis	1		1		***Macroptilium***	10	(3)	46	(11)
Arachis	7	(5)	23	(10)	***Macrotyloma***	6	(3)	27	(9)
Argyrolobium	1		1		***Medicago***	8	(4)	42	(22)
Astragalus	3		5		*Melilotus*	4		2	
Atylosia	1		1		***Milletia***	1	(1)	1	(1)
Cajanus	2	(1)	21	(6)	***Mimosa***	7	(2)	6	(2)
Calliandra	2	(2)	8	(7)	*Mucuna*	2		2	
Calopogonium	3		13		*Nauretania*	1		1	
Canavalia	4		7		***Neonotonia***	1	(1)	17	(10)
Carmichaelia	2		3		*Neptunia*	4	(3)	6	(6)
Centrosema	9	(6)	43	(14)	***Onobrychis***	2	(1)	2	(1)
Chamaecrista	8		6		***Ornithopus***	2	(1)	2	(1)
Chamaecytisus	1	(1)	2	(1)	*Oxytropus*	1		1	
Cicer	1	(1)	9	(1)	*Pachyrhizus*	1		1	
Clitoria	5	(1)	14	(4)	*Petalostemum*	1		1	
Codariocalyx	1	(1)	1	(1)	***Phaseolus***	5	(1)	57	(9)
Coronilla	1	(1)	1	(1)	***Pisum***	1	(1)	3	(2)
Crotalaria	13	(2)	11	(2)	*Pongamia*	1		2	
Cyamopsis	1		1		*Prosopis*	1	(1)	1	(1)
Dalbergia	3		4		***Psoralea***	6	(1)	28	(1)
Dalea	1		1		***Pueraria***	2		6	
Daviesia	1		1		*Pultenaea*	2		5	
Desmanthus	5	(3)	11	(8)	*Pycnospora*	1		1	
Desmodium	30	(10)	98	(31)	***Rhynchosia***	4	(1)	11	(2)
Dolichos	5	(4)	7	(4)	*Schleinitzia*	1	(1)	1	(1)
Dorycnium	1		2		***Sesbania***	9	(4)	24	(8)
Dunbaria	1		1		*Sophora*	1		1	
Eriosema	1		1		***Stylosanthes***	18	(9)	189	(102)
Erythrina	1		1		*Swainsona*	1	(1)	1	(1)
Flemingia	2		1		*Templetonia*	1		1	
Galactia	3		1		*Tephrosia*	6		4	
Gliricidia	2	(1)	12	(12)	***Teramnus***	4	(1)	14	(1)
Glycine	9	(4)	102	(43)	***Tipuana***	1		2	
Gompholobium	1		1		***Trifolium***	25	(19)	96	(42)
Hedysarum	1		1		*Trigonella*	1		1	
Indigofera	15	(9)	27	(15)	*Uraria*	1		1	
Jacksonia	1		1		*Vandasena*	1		1	
Kummerowia	1		2		***Vicia***	4		1	
Lablab	1	(1)	4	(2)	***Vigna***	18	(9)	61	(27)
Lathyrus	1		1		***Viminaria***	1	(1)	1	(1)
Lens	1		1		***Zornia***	7	(2)	19	(3)
Lespedeza	1		1		Unknown			9	

The CB Accession List

CB No.		Original Label	Host Legume	Country	Town	Growth Rate	Reaction
1		SU157	*Trifolium repens*	Australia	Glen Innes	Fast	Acid
3		CC2483g	*Trifolium subterraneum*	Australia		Fast	Acid
27			*Macroptilium lathyroides*	Australia	Beerwah	Slow	Acid
31			*Arachis diogoi*	Australia	Elimbah	Slow	Alkaline
44	#[1]		*Stylosanthes guianensis*	Australia	Gatton	Slow	Alkaline
45			*Vigna unguiculata*	Australia	Grantham	Very slow	Alkaline
46			*Desmodium triflorum*	Australia	Brisbane	Slow	
54			*Macroptilium lathyroides*	Australia	Gatton	Slow	Alkaline
61		AH2	*Medicago sativa*	United Kingdom		Fast	Acid
64			*Medicago truncatula*	Australia		Fast	Acid
76			*Stylosanthes humilis*	Australia	Townsville	Slow	Alkaline
81	#		*Leucaena leucocephala*	Australia	Brisbane	Fast	Acid
82	#		*Stylosanthes guianensis*	Australia	Fitzroyvale	Intermediate	Neutral
98			*Medicago truncatula*	Australia	Cecil Plains	Fast	Acid
103	#		*Stylosanthes humilis*	Australia	Katherine	Slow	Neutral
105			*Stylosanthes humilis*	Australia	Katherine	Slow	Alkaline
110			*Medicago truncatula*	Australia	Gatton	Fast	Acid
112			*Medicago* sp.	Australia	Gatton	Intermediate	Alkaline
113			*Medicago sativa*	Australia	Gatton	Fast	Acid
115			*Medicago sativa*	Australia	Gatton	Fast	Acid
118			*Medicago sativa*	Australia	Kingaroy	Fast	Acid
119			*Medicago sativa*	Australia	Gatton	Fast	Acid
121	#		*Macroptilium lathyroides*	Australia	Rockhampton	Slow	Alkaline
128			*Desmodium uncinatum*	Australia	Redland Bay	Slow	Alkaline
136			*Cajanus cajan*	Australia	Biloela	Intermediate	Alkaline
147		ROTH CLF	*Trifolium repens*	United Kingdom		Fast	Acid
152			*Indigofera trifoliata*	Australia	Calliope	Fast	Alkaline
159	#		*Dolichos trilobus*	Australia	Maryborough	Slow	Alkaline
163			*Indigofera colutea*	Australia	Gayndah	Intermediate	Alkaline
170			*Macroptilium lathyroides*	Australia	Calliope	Slow	Alkaline
187			*Desmodium uncinatum*	Australia	Redland Bay	Slow	Alkaline
188			*Crotalaria brevidens*	Australia	Redland Bay	Slow	Alkaline
214			*Medicago* sp.	Australia	Toowoomba	Fast	Acid
217			*Medicago sativa*	Australia	Stanthorpe	Fast	Acid
227			*Medicago sativa*	Australia	Rodds Bay	Fast	Alkaline
232			*Glycine tomentella*	Australia	Jondaryan	Slow	Alkaline
233			*Vigna unguiculata*	Australia	Moolboolaman	Slow	Alkaline
257			*Medicago sativa*	Australia	Gatton	Fast	Acid
273			*Stylosanthes fruticosa*	Papua New Guinea	Lae	Intermediate	Acid
278			*Alysicarpus vaginalis*	Australia	Katherine	Intermediate	Alkaline
279			*Clitoria ternatea*	Australia	Katherine	Slow	Alkaline
284			*Vigna mungo*	Australia	Katherine	Slow	Alkaline
291			*Glycine tabacina*	Australia	Katherine	Slow	Alkaline
319			*Stylosanthes humilis*	Australia	Rodds Bay	Slow	Alkaline
327			*Glycine clandestina*	Australia	Esk	Intermediate	Alkaline
328	#		*Zornia diphylla*	Australia	Katherine	Slow	Neutral
331			*Indigofera suffruticosa*	Australia	Brisbane	Intermediate	Alkaline
333			*Indigofera suffruticosa*	Australia	Brisbane	Intermediate	Alkaline
334			*Indigofera australis*	Australia	Brisbane	Slow	Alkaline
336			*Indigofera trita*	Australia	Brisbane	Intermediate	Alkaline
337			*Indigofera trita*	Australia	Brisbane	Slow	Alkaline
341			*Indigofera suffruticosa*	Australia	Brisbane	Intermediate	Alkaline
344			*Indigofera mucronata*	Australia	Brisbane	Intermediate	Acid

[1] # denotes those accessions included in The List of Strains with Published Performance Information.

CB No.		Original Label	Host Legume	Country	Town	Growth Rate	Reaction
345			*Indigofera arrecta*	Australia	Brisbane	Intermediate	Alkaline
348			*Indigofera suffruticosa*	Australia	Brisbane	Intermediate	Alkaline
349			*Indigofera arrecta*	Australia	Brisbane	Intermediate	Alkaline
350			*Indigofera hirsuta*	Australia	Brisbane	Intermediate	Alkaline
356			*Indigofera* sp.	Australia	Brisbane	Slow	Alkaline
358			*Indigofera trita*	Australia	Brisbane	Slow	Alkaline
360			*Lotononis bainesii*	South Africa	Pretoria	Slow	Alkaline
376	#		*Lotononis bainesii*	South Africa	Pretoria	Intermediate	Alkaline
430			*Leucaena leucocephala*	Australia	Rodds Bay	Intermediate	Neutral
439			*Neonotonia wightii*	Australia	South Johnstone	Slow	Alkaline
451			*Vigna radiata*	Australia	Strathpine	Intermediate	Acid
453			*Neonotonia wightii*	Australia	Mareeba	Intermediate	Alkaline
454			*Macrotyloma uniflorum*	Australia	Strathpine	Intermediate	Neutral
463			*Lablab purpureus*	Australia	Strathpine	Slow	Alkaline
464			*Aeschynomene falcata*	Australia	Strathpine	Slow	Alkaline
483			*Cajanus cajan*	Australia	Strathpine	Slow	Alkaline
484			*Teramnus uncinatus*	Australia	Strathpine	Slow	Alkaline
512			*Vigna radiata*	Australia	Taroom	Intermediate	Alkaline
516			*Stylosanthes humilis*	Australia	Taroom	Intermediate	Alkaline
526	#	58A 6 6	*Trifolium semipilosum*	Kenya	Nairobi	Fast	Neutral
530	#		*Arachis prostrata*	Australia	Samford	Intermediate	Alkaline
627	#	22-4	*Desmodium intortum*	Zaire		Intermediate	Alkaline
661			*Vigna radiata*	India	Modhya	Intermediate	Alkaline
714			*Trifolium rueppellianum*	Tanzania	Mbulu	Fast	Acid
727	#		*Trifolium burchellianum*	South Africa	Franklyn	Fast	Acid
730			*Lotononis bainesii*	South Africa	Louis Trichardt	Slow	Alkaline
746			*Arachis hypogaea*	Argentina		Slow	Acid
756	#		*Macrotyloma africanum*	Zimbabwe	Marandellas	Slow	Neutral
758	#		*Trifolium tembense*	Tanzania	Bashai	Fast	Acid
763			*Trifolium semipilosum*	Uganda	Entebbe	Fast	Neutral
766			*Trifolium rueppellianum*	Tanzania	Mbulu	Fast	Acid
768			*Listia heterophylla*	Zimbabwe	Bvumbwe	Slow	Alkaline
769			*Dolichos sericeus*	Tanzania	Tengeru	Slow	Alkaline
771	#		*Trifolium usambarense*	Tanzania	Mbulu	Fast	Acid
772			*Trifolium rueppellianum*	Tanzania	Mbulu	Fast	Acid
773			*Trifolium tembense*	Tanzania	Mbulu	Fast	Acid
774			*Trifolium rueppellianum*	Tanzania	Mbulu	Fast	Acid
775			*Trifolium usambarense*	Tanzania	Mbulu	Fast	Acid
778			*Trifolium semipilosum*	Kenya	Ol Joro Orok	Intermediate	Acid
782	#		*Trifolium semipilosum*	Kenya	Kitale	Fast	Acid
786			*Vigna oblongifolia*	Uganda	Murchison Falls	Slow	Alkaline
788	#		*Trifolium semipilosum*	Australia	Beerwah	Intermediate	Acid
806			*Trifolium isthmocarpum*	Brazil	Montenegro	Fast	Acid
813		Lucerne 51	*Medicago sativa*	Australia	Perth	Intermediate	Acid
867		AR30	*Trifolium subterraneum*	Australia	Bundarra	Fast	Acid
875		AR43	*Trifolium subterraneum*	Australia	Uralla	Fast	Acid
876		AR44A	*Trifolium subterraneum*	Australia	Uralla	Fast	Acid
890			*Vigna radiata*	Australia	Kilcummin	Slow	Alkaline
895		USDA3021	*Crotalaria sagittalis*	United States	Beltsville	Intermediate	Alkaline
915			*Vigna marina*	Australia	Bingil Bay	Slow	Alkaline
924			*Neptunia* sp.	Australia	Camooweal	Intermediate	Acid
947		WIS712	*Leucaena leucocephala*	United States		Fast	Acid
948	#	NGR8	*Leucaena leucocephala*	Papua New Guinea		Fast	Acid
952			*Leucaena leucocephala*	Australia	Darwin	Fast	Acid
967			*Medicago sativa*	Australia	Taroom	Fast	Neutral
985			*Vigna mungo*	Philippines	Baguio	Slow	Alkaline
987		T 10 H	*Cajanus cajan*	India	Poona	Intermediate	Alkaline
1003			*Glycine max*	Thailand		Intermediate	Alkaline
1011			*Vigna mungo*	India		Intermediate	Alkaline

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1015 #		*Vigna radiata*	India		Slow	Alkaline
1017		*Vigna radiata*	India		Intermediate	Acid
1024 #		*Macrotyloma uniflorum*	India	Coimbatore	Intermediate	Alkaline
1027		*Desmodium intortum*	Sri Lanka	Peradeniya	Intermediate	Acid
1035		*Medicago sativa*	Pakistan	Lyallpur	Fast	Acid
1042		*Vigna radiata*	Pakistan	Lyallpur	Fast	Alkaline
1057	QA922	*Neonotonia wightii*	Australia	Ayr	Slow	Alkaline
1071	CC511	*Phaseolus vulgaris*	United States		Intermediate	Acid
1091	USDA3301	*Lablab purpureus*	Australia	Wollongbar	Fast	Acid
1103		*Centrosema pubescens*	Australia	Utchee Ck	Slow	Alkaline
1149	NGR31	*Leucaena leucocephala*	Papua New Guinea	Port Moresby	Fast	Acid
1170	Grasslands30	*Medicago sativa*			Fast	Acid
1209	95E3	*Lotus uliginosus*	United States	Milwaukee	Slow	Alkaline
1224		*Phaseolus vulgaris*	Australia	Charlton	Fast	Acid
1243		*Vigna mungo*	Australia	Humpty Doo	Intermediate	Alkaline
1247		*Vigna mungo*	Australia	Kununurra	Slow	Alkaline
1263		*Desmodium* sp.	Malaysia	Kuching	Fast	Alkaline
1267		*Neonotonia wightii*	Malaysia	Kuching	Slow	Alkaline
1272		*Stylosanthes* sp.	Malaysia	Kuching	Slow	Alkaline
1297		*Lotononis angolensis*	Zambia	Fort Jameson	Intermediate	Alkaline
1298		*Lotononis angolensis*	Zambia	Fort Jameson	Slow	Alkaline
1299		*Lotononis angolensis*	Zambia	Fort Jameson	Slow	Alkaline
1300		*Lotus maroccanus*	Australia	Canberra	Fast	Acid
1318		*Dolichos* sp.	Zimbabwe	Mataragi Falls	Slow	Alkaline
1321		*Lotononis angolensis*	Zambia	Fort Jameson	Intermediate	Alkaline
1322		*Lotononis angolensis*	Zambia	Fort Jameson	Intermediate	Alkaline
1323 #		*Lotononis angolensis*	Zambia	Fort Jameson	Intermediate	Alkaline
1353		*Leucaena leucocephala*	Colombia		Fast	Neutral
1368		*Medicago sativa*	Papua New Guinea	Lae	Fast	Acid
1394	203A	*Lotononis stipulosa*	Zimbabwe		Slow	Alkaline
1397		*Neptunia plena*	Guyana	Mon Repos	Intermediate	Acid
1406		*Dolichos argenteus*	French Guiana			
1408 #		*Stylosanthes guianensis*	French Guiana		Slow	Alkaline
1444	UNZ 29	*Trifolium repens*	Australia	Sydney	Slow	Alkaline
1445	U45	*Medicago sativa*	Australia	Sydney	Fast	Acid
1446	SU47	*Medicago sativa*	Australia	Sydney	Fast	Acid
1447	175G11	*Pisum sativum*	Australia	Sydney	Fast	Acid
1491		*Centrosema pubescens*	Brazil	Matao	Slow	Alkaline
1494		*Centrosema pubescens*	Brazil	Seropedica	Slow	Alkaline
1517		*Desmodium pabulare*	Brazil	Araraquara	Slow	Alkaline
1524		*Desmodium* sp.	Brazil	Matao	Slow	Alkaline
1546		*Zornia diphylla*	Brazil	Matao	Fast	Alkaline
1552		*Stylosanthes guianensis*	Brazil	Matao	Slow	Alkaline
1564		*Desmodium canum*	Brazil	Tres Coracoes	Intermediate	Alkaline
1580		*Stylosanthes guianensis*	Brazil	Campinas	Intermediate	Alkaline
1622		*Desmodium tortuosum*	Brazil	Campinas	Intermediate	Alkaline
1627		*Desmodium barbatum*	Brazil	Valinhos	Fast	Neutral
1632	SFS97	*Desmodium adscendens*	Brazil	Valinhos	Intermediate	Acid
1650 #		*Stylosanthes guianensis*	Brazil	Matao	Slow	Acid
1668		*Glycine max*	Brazil	Matao	Intermediate	Alkaline
1675		*Stylosanthes humilis*	Brazil	Matao	Slow	Acid
1689		*Stylosanthes humilis*	Brazil	Matao	Slow	Neutral
1698	SFS79	*Centrosema plumieri*	Brazil	Matao	Slow	Alkaline
1717 #		*Macroptilium erythroloma*	Brazil	Pirassununga	Slow	Alkaline
1727		*Stylosanthes* sp.	Brazil	Campinas	Slow	Alkaline
1753		*Glycine max*	United States	Princeton	Slow	Alkaline
1775	969Ba	*Lotononis bainesii*	Zimbabwe	Marandellas	Intermediate	Alkaline
1776	970Aa	*Lotononis bainesii*	Zimbabwe	Marandellas	Slow	Alkaline
1777	968Aa	*Lotononis bainesii*	Zimbabwe	Marandellas	Slow	Alkaline

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1778	971Aa	*Lotononis bainesii*	Zimbabwe	Marandellas	Slow	Alkaline
1779	932A	*Lotononis bainesii*	Zimbabwe	Marandellas	Slow	Alkaline
1782		*Stylosanthes humilis*	United States	Chapel Hill	Intermediate	Alkaline
1786		*Glycine max*	Thailand	Lampoon	Intermediate	Alkaline
1791	Aso 6	*Glycine max*	United States	Beltsville	Intermediate	Alkaline
1793	USDA40	*Glycine max*	United States	Beltsville	Slow	Alkaline
1794	USDA44	*Glycine max*	United States	Beltsville	Slow	Alkaline
1795	USDA46	*Glycine max*	United States	Beltsville	Slow	Alkaline
1797	USDA62	*Glycine max*	United States	Beltsville	Slow	Alkaline
1799	USDA110	*Glycine max*	United States	Beltsville	Intermediate	Alkaline
1802	USDA122	*Glycine max*	United States	Beltsville	Fast	Alkaline
1803	USDA121	*Glycine max*	United States	Beltsville	Intermediate	Alkaline
1805	USDA125	*Glycine max*	United States	Beltsville	Intermediate	Alkaline
1808	USDA135	*Glycine max*	United States	Beltsville	Slow	Alkaline
1809 #	USDA136	*Glycine max*	United States	Beltsville	Intermediate	Alkaline
1810	JAP36-2	*Glycine max*	United States	Beltsville	Slow	Alkaline
1895		*Centrosema* sp.	Dominican	Santiago	Slow	Alkaline
1908		*Glycine tomentella*	Australia	Gin Gin	Slow	Alkaline
1911	QA981	*Glycine max*	Australia	Warwick	Slow	Alkaline
1914	SFS13	*Neonotonia wightii*	Brazil	Seropedica	Intermediate	Alkaline
1915	SFS14	*Neonotonia wightii*	Brazil	Seropedica	Slow	Alkaline
1916	SFS19	*Neonotonia wightii*	Brazil	Matao	Slow	Alkaline
1918	SFS31	*Neonotonia wightii*	Brazil	Seropedica	Slow	Alkaline
1922	SFS237	*Centrosema pubescens*	Brazil	Campinas	Slow	Alkaline
1923 #	C101a	*Centrosema pubescens*	Brazil	Seropedica	Slow	Alkaline
1924	SFS84	*Glycine max*	Brazil	Campinas	Slow	Alkaline
1925	SFS85	*Glycine max*	Brazil	Campinas	Slow	Alkaline
1926	SFS86	*Glycine max*	Brazil	Campinas	Slow	Alkaline
1929	SFS89	*Glycine max*	Brazil	Campinas	Slow	Alkaline
1930	SFS112	*Glycine max*	Brazil	Campinas	Slow	Alkaline
1932	SFS114	*Glycine max*	Brazil	Campinas	Intermediate	Alkaline
1934	SFS116	*Glycine max*	Brazil	Campinas	Intermediate	Neutral
1935	SFS117	*Glycine max*	Brazil	Campinas	Slow	Alkaline
1936	SFS120	*Glycine max*	Brazil	Campinas	Slow	Alkaline
1940	SFS124	*Glycine max*	Brazil	Campinas	Slow	Alkaline
1941	SFS125	*Glycine max*	Brazil	Campinas	Slow	Alkaline
1942	SFS126	*Glycine max*	Brazil	Campinas	Slow	Alkaline
1943	SFS127	*Glycine max*	Brazil	Campinas	Slow	Alkaline
1984		*Stylosanthes fruticosa*	Sudan		Slow	Alkaline
1990	TA1	*Trifolium subterraneum*	Australia	Sydney	Fast	Acid
1992	TA101	*Pisum sativum*	Australia	Sydney	Fast	Acid
2000	116 A5	*Onobrychis viciifolia*	United States	Milwaukee	Fast	Acid
2001		*Neptunia gracilis*	Australia	Gayndah	Fast	Acid
2002		*Neptunia gracilis*	Australia	Gayndah	Fast	Acid
2003		*Neptunia gracilis*	Australia	Gayndah	Fast	Acid
2004		*Neptunia gracilis*	Australia	Gayndah	Fast	Acid
2012	CC401	*Coronilla varia*	United States		Fast	Acid
2016	Soja 566	*Glycine max*	Brazil	Porto Alegre	Slow	Alkaline
2026	WU425	*Ornithopus compressus*	Australia		Intermediate	Neutral
2031	No.409	*Trifolium semipilosum*	Zimbabwe	Marandellas	Fast	Acid
2032	No.862	*Trifolium semipilosum*	Zimbabwe	Marandellas	Fast	Neutral
2033		*Stylosanthes guianensis*	Australia	Kungurrabar	Slow	Alkaline
2085 #		*Desmodium heterophyllum*	Australia	Sth Johnstone	Slow	Neutral
2116		*Trifolium semipilosum*	Australia	Milla Milla	Fast	Acid
2117		*Trifolium semipilosum*	Australia	Gympie	Fast	Acid
2121		*Codariocalyx gyroides*	Fiji		Slow	Alkaline
2123		*Desmodium heterophyllum*	Fiji		Slow	Alkaline
2126 #		*Stylosanthes hamata*	Jamaica	Kingston	Slow	Alkaline
2134		*Stylosanthes hamata*	Jamaica	Kingston	Slow	Alkaline

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2135		*Stylosanthes hamata*	Jamaica	Kingston	Slow	Alkaline
2136		*Stylosanthes hamata*	Jamaica	Kingston	Slow	Alkaline
2144		*Stylosanthes humilis*	Indonesia	Gilimanuk	Slow	Alkaline
2150		*Stylosanthes guianensis*	Panama	David	Intermediate	Alkaline
2152 #		*Stylosanthes hamata*	United States	Miami	Slow	Alkaline
2154	CB952	*Leucaena leucocephala*	Australia	Darwin	Fast	Acid
2163		*Desmodium heterophyllum*	Australia	Sth Johnstone	Slow	Neutral
2164		*Desmodium heterophyllum*	Australia	Sth Johnstone	Fast	Alkaline
2168 #		*Stylosanthes fruticosa*	Tanzania	Msalto	Slow	Acid
2178	TA1	*Trifolium subterraneum*	Australia		Fast	Acid
2179	WU290(iii)	*Trifolium subterraneum*	Australia		Fast	Acid
2190		*Zornia brasiliensis*	Brazil		Intermediate	Acid
2195		*Neonotonia wightii*	Uganda		Slow	Alkaline
2198		*Trifolium baccarinii*	Uganda		Fast	Acid
2212		*Stylosanthes* sp.	Panama	Boquete	Slow	Alkaline
2216		*Stylosanthes* sp.	Panama	Pedasi	Slow	Alkaline
2229 #		*Stylosanthes guianensis*	Costa Rica	Toboga	Intermediate	Alkaline
2248		*Stylosanthes guianensis*	Costa Rica	Finca Volcan	Intermediate	Alkaline
2270	CC829	*Lotus uliginosus*	United States		Slow	Alkaline
2273	W118	*Medicago rugosa*	Australia		Fast	Acid
2286		*Stylosanthes guianensis*	Costa Rica	Guanacaste	Intermediate	Alkaline
2288	CB2288.STR	*Trifolium simense*	Ethiopia		Fast	Acid
2312 #		*Aeschynomene falcata*	Australia	Grafton	Slow	Alkaline
2325		*Stylosanthes guianensis*	Costa Rica	San Ramon	Intermediate	Alkaline
2343	R700	*Lotononis bainesii*	Zimbabwe		Slow	Alkaline
2344	R933	*Lotononis bainesii*	Zimbabwe		Slow	Alkaline
2354		*Stylosanthes guianensis*	Costa Rica	Villa Colon	Slow	Alkaline
2368		*Vigna* sp.	Costa Rica	Atenas	Slow	Alkaline
2388		*Aeschynomene falcata*	Australia	Grafton	Intermediate	Alkaline
2390		*Aeschynomene falcata*	Australia	Grafton	Intermediate	Alkaline
2391		*Aeschynomene falcata*	Australia	Grafton	Intermediate	Alkaline
2406	QA9887	*Lotononis angolensis*	Zambia	Mbale	Intermediate	Alkaline
2464 #		*Stylosanthes guianensis*	Brazil	Uberlandia	Slow	Alkaline
2534		*Stylosanthes guianensis*	Australia	Redland Bay	Slow	Alkaline
2645		*Lotononis angolensis*	Tanzania	Mbeya	Intermediate	Neutral
2648		*Lotononis platycarpos*	South Africa	Louis Trichardt	Slow	Alkaline
2676		*Lotononis orthorrhiza*	South Africa	Pretoria	Slow	Alkaline
2695		*Lotononis mucronata*	South Africa	Komga	Slow	Alkaline
2705		*Lotononis mucronata*	South Africa	Pearston	Intermediate	Alkaline
2743	ST78/1/1	*Sesbania erubescens*	Australia	Kununurra	Fast	Acid
2793	DII/13	*Stylosanthes guianensis*	Australia	Tumbulgum	Slow	Alkaline
2794	FI/9	*Macroptilium atropurpureum*	Australia	Tumbulgum	Slow	Alkaline
2795 #	DR1/5	*Glycine clandestina*	Australia	Piccabeen	Slow	Alkaline
2796	ST6/C1	*Glycine clandestina*	Australia	Tumbulgum	Slow	Alkaline
2797 #	BR-1CA(S5)	*Macroptilium atropurpureum*	Brazil		Fast	Acid
2802		*Arachis monticola*	Australia	Samford	Intermediate	Alkaline
2803	BR-1AE	*Macroptilium atropurpureum*	Brazil		Slow	Alkaline
2837	ST17/27/2	*Stylosanthes hamata*	Australia	Fanning River	Intermediate	Alkaline
2839	ST17/29/1	*Stylosanthes hamata*	Australia	Fanning River	Slow	Alkaline
2841	ST17/19/1	*Stylosanthes hamata*	Australia	Lansdown	Slow	Alkaline
2843	ST30/2/2	*Stylosanthes guianensis*	Australia		Slow	Alkaline
2844	ST27/1	*Stylosanthes guianensis*	Australia	Boomerang	Slow	Alkaline
2851	ST19/1/1/1	*Stylosanthes guianensis*	Australia	Katherine	Slow	Alkaline
2852	ST19/1/3/3	*Stylosanthes guianensis*	Australia	Katherine	Slow	Alkaline
2855	CC1192	*Cicer arietinum*			Intermediate	Neutral
2885	CC709	*Glycine max*	Australia	Canberra	Intermediate	Alkaline
2898	ST45/4	*Stylosanthes capitata*	Australia	Townsville	Slow	Alkaline
2899	CC511	*Phaseolus vulgaris*	United States		Intermediate	Neutral
2914	J1011	*Leucaena leucocephala*	Indonesia		Fast	Neutral

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2915	NZP5258	*Leucaena leucocephala*	Papua New Guinea		Fast	Acid
2919	ST54/2/1	*Leucaena leucocephala*	Australia	Hughenden	Fast	Acid
2920	ST54/3/2	*Leucaena leucocephala*	Australia	Balfs Ck	Fast	Acid
2921	ST60/6	*Leucaena leucocephala*	Australia	Kobble Ck	Fast	Acid
2922	ST62/1	*Leucaena leucocephala*	Australia	Samford	Fast	Acid
2923	TAL82	*Leucaena leucocephala*	United States	Paia	Fast	Acid
2927		*Arachis pintoi*	Australia	Samford	Intermediate	Neutral
2929	NZP5460/1	*Schleinitzia insularum*	New Zealand	Aitutaki	Intermediate	Acid
2937	WU95	*Trifolium subterraneum*	Australia		Fast	Neutral
2938	SU343	*Lotus corniculatus*	Australia		Fast	Acid
2940	CB1809	*Glycine max*	United States	Beltsville		
2944		*Centrosema schottii*	Australia	Katherine	Intermediate	Alkaline
2947		*Centrosema brasilianum*	Australia	Katherine	Fast	Alkaline
2948		*Centrosema brasilianum*	Australia	Katherine	Slow	Alkaline
2949 #		*Centrosema brasilianum*	Australia	Katherine	Fast	Alkaline
2987	CB40	*Glycine tabacina*	Australia	Grantham	Slow	Alkaline
3023	ST78/2/1/	*Sesbania erubescens*	Australia	Kununurra	Fast	Acid
3035 #	QA1083	*Macrotyloma axillare*	Australia	Gatton	Intermediate	Alkaline
3036	CIAT3144	*Arachis pintoi*	Colombia	Carimagua	Slow	Acid
3043	ST17/14/5	*Stylosanthes hamata*	Australia	Lansdown	Slow	Alkaline
3048 #	RAD446/1	*Stylosanthes capitata*	Venezuela	Pariaguan		Alkaline
3049	RAD446/4	*Stylosanthes capitata*	Venezuela	Pariaguan		Alkaline
3050 #	RAD261/7	*Stylosanthes guianensis*	Colombia	Pto Lopez	Slow	Acid
3051	RAD261/12	*Stylosanthes guianensis*	Colombia	Pto Lopez	Slow	Alkaline
3052	RAD261/17	*Stylosanthes guianensis*	Colombia	Pto Lopez	Slow	Alkaline
3053	RAD105/3	*Stylosanthes hamata*	Antigua	Shell Beach	Slow	Alkaline
3055 #	CIAT170	*Stylosanthes* sp.	Brazil			Alkaline
3056	IHP95	*Cajanus cajan*	India		Slow	Alkaline
3057	RAD603/6	*Gliricidia sepium*	Australia	Moggill	Fast	Acid
3059	RAD604/2	*Gliricidia sepium*	Solomon Islands	Honiara	Fast	Acid
3060 #	ST71/4/4	*Leucaena diversifolia*	Australia	Townsville	Fast	Neutral
3061	CC169	*Medicago rugosa*	Australia	Stockyard Ck	Fast	Acid
3068	IHP53	*Cajanus cajan*	India		Fast	Alkaline
3069	IHP377	*Cajanus cajan*	India		Fast	Alkaline
3074	CC1500	*Chamaecytisus palmensis*	Australia	Michelago		Neutral
3077 #	570.5	*Desmodium intortum*	Australia	Tumbulgum	Intermediate	Alkaline
3078 #	570.40	*Desmodium intortum*	Australia	Tumbulgum	Slow	Alkaline
3079 #	831.18	*Desmodium intortum*	Australia	Beerwah	Slow	Alkaline
3080 #	673.19	*Desmodium intortum*	Australia	Samford	Intermediate	Alkaline
3081 #	677.3	*Desmodium intortum*	Australia	Samford	Slow	Alkaline
3083	RAD603/1	*Gliricidia sepium*	Australia	Moggill	Slow	Alkaline
3084	RAD603/3	*Gliricidia sepium*	Australia	Moggill	Slow	Alkaline
3085	RAD604/4	*Gliricidia sepium*	Solomon Islands	Honiara	Slow	Alkaline
3086	RAD604/5	*Gliricidia sepium*	Solomon Islands	Honiara		
3087	RAD604/6	*Gliricidia sepium*	Solomon Islands	Honiara	Slow	Alkaline
3088	RAD608/2	*Gliricidia sepium*	Sri Lanka		Slow	Alkaline
3089	RAD608/5	*Gliricidia sepium*	Sri Lanka		Slow	Alkaline
3090 #	RAD608/6	*Gliricidia sepium*	Sri Lanka		Intermediate	Acid
3091	RAD609/2	*Gliricidia sepium*	Sri Lanka		Slow	Alkaline
3092	RAD609/6	*Gliricidia sepium*	Sri Lanka		Slow	Alkaline
3094	NC92	*Arachis hypogaea*	Bolivia			
3096	570.5RS2	*Desmodium intortum*	Australia	Tumbulgum	Slow	Neutral
3097	570.40RS8	*Desmodium intortum*	Australia	Tumbulgum	Intermediate	Alkaline
3098	831.8RS9	*Desmodium intortum*	Australia	Beerwah	Fast	Neutral
3099	673.19RS5	*Desmodium intortum*	Australia	Samford	Intermediate	Neutral
3100	677.3RS6	*Desmodium intortum*	Australia	Samford	Slow	Neutral
3101	CB627RS6	*Desmodium intortum*	Zaire		Slow	Neutral
3108 #	TAL600	*Prosopis chilensis*	United States	Paia	Fast	Acid
3109	ST71/4/4	*Leucaena diversifolia*	Australia	Townsville	Fast	Neutral

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3120	CC283b	*Trifolium ambiguum*	Australia	Canberra	Fast	Neutral
3125 #	CIAT3101	*Centrosema macrocarpum*	Colombia	Santa Marta	Fast	Neutral
3126 #	RAD44/1	*Leucaena leucocephala*	Mexico	Altamirano	Fast	Acid
3127	RAD54/7	*Leucaena esculenta*	Mexico	Altamirano	Fast	Acid
3128 #	RAD59/2	*Leucaena leucocephala*	Mexico	Altamirano	Fast	Acid
3129	RAD96/2	*Leucaena leucocephala*	Mexico	Merida	Fast	Acid
3130	RAD119/1	*Leucaena leucocephala*	Antigua	Fitches Creek	Fast	Acid
3131	RAD398/3	*Leucaena trichodes*	Mexico	El Rodeo		Acid
3132	RAD561/4	*Desmanthus fruticosus*	Mexico	Mulege	Fast	Acid
3133	RAD564/1	*Desmanthus virgatus*	Mexico	Villa Constituc.	Fast	Acid
3138 #	MS111	*Leucaena leucocephala*	Malaysia			
3154	RAD330/14	*Stylosanthes capitata*	Brazil	Vianopilis		Alkaline
3156	RAD723/1	*Acacia mangium*	Papua New Guinea	Oriomo R		Acid
3164	NA1583	*Vigna unguiculata*	Nigeria		Slow	Alkaline
3165 #	NA1601	*Vigna unguiculata*	Nigeria		Slow	Alkaline
3166	TAL1	*Calliandra calothyrsus*	Nicaragua		Fast	Acid
3169	TAL1456	*Calliandra inaequilatera*	Japan	Nagoya		
3171 #	TAL33	*Calliandra calothyrsus*	Nicaragua			
3197	USDA8-T	*Glycine max*	United States		Slow	Alkaline
3200	RAD745/1	*Sesbania grandiflora*	Pakistan	Tand Jam Sindh	Fast	Acid
3236	PMA311/1	*Acacia mangium*	Papua New Guinea	Oriomo	Slow	
3237	PMA119	*Sesbania grandiflora*	Thailand	Ratchapuri		
3241	CIAT2400	*Stylosanthes capitata*	Brazil	Manaus		
3243	NA1580	*Vigna unguiculata*	Nigeria		Slow	Alkaline
3244	NA1581	*Vigna unguiculata*	Nigeria		Slow	Alkaline
3245	CP13.3	*Vigna parkeri*	Australia	Kin Kin	Slow	Alkaline
3246	CP1.1	*Vigna parkeri*	Australia	Beerwah	Slow	Alkaline
3256	CIAT4969	*Stylosanthes* sp.				
3275	CIAT1460MI	*Stylosanthes guianensis*				
3282	TAL2	*Calliandra calothyrsus*				
3283	WIS507	*Glycine max*				
3284	CB756M1	*Macrotyloma africanum*	Zimbabwe	Marandellas		
3287	PMA295/2	*Sesbania sesban*				
3289 #	RAD120/1	*Stylosanthes hamata*	St. Kitts - Nevis		Slow	Alkaline
3290	RAD142/1	*Stylosanthes hamata*	Venezuela	Maracaibo	Intermediate	Alkaline
3291	RAD143/12	*Stylosanthes hamata*	Venezuela	Zulia	Slow	Alkaline
3292	RAD145/1	*Stylosanthes hamata*	Venezuela	Maracaibo	Slow	Alkaline
3293	RAD149/1	*Stylosanthes hamata*	Venezuela	Maracaibo	Slow	Alkaline
3294	RAD464/1	*Stylosanthes* sp.	United States	Sanford	Very slow	Alkaline
3295	RAD724/1	*Stylosanthes capitata*	Venezuela		Very slow	Alkaline
3296	RAD725/1	*Stylosanthes capitata*	Venezuela		Very slow	Alkaline
3297	RAD718/1	*Leucaena retusa*	Australia		Fast	Acid
3298	RAD726/1	*Leucaena retusa*	Australia		Fast	
3299	RAD727/2	*Leucaena greggii*	Australia		Fast	
3300	RAD746/3	*Sesbania grandiflora*	Pakistan		Intermediate	Acid
3301 #	RAD747/1	*Sesbania grandiflora*	Pakistan		Intermediate	Acid
3303	RAD624/3	*Sesbania* sp.	Australia			
3306	RAD436/3	*Stylosanthes capitata*	Venezuela		Very slow	Alkaline
3307	RAD437/2	*Stylosanthes capitata*	Venezuela		Very slow	Alkaline
3308	RAD439/5	*Stylosanthes capitata*	Venezuela		Very slow	Alkaline
3310	RAD580/1	*Trifolium simense*	Ethiopia			
3311 #	RAD581/1	*Trifolium polystachyum*	Ethiopia			
3312	RAD584/2	*Trifolium mattirolianum*	Ethiopia			Acid
3313	RAD586/4	*Trifolium multinerve*	Ethiopia			Acid
3314	RAD590/1	*Trifolium cryptopodium*	Ethiopia			
3315 #	RAD593/3	*Trifolium decorum*	Ethiopia			
3316	RAD597/1	*Trifolium calocephalum*	Ethiopia			
3318	ST87/2	*Mimosa pigra*	Australia		Intermediate	Alkaline
3319	VB178/1a	*Rhynchosia minima*	Australia	Mywybilla		

CB No.	Original Label	Host Legume	Country	Town	Growth Rate	Reaction
3320	VB240/1aa	*Rhynchosia minima*	Australia			
3321	VB560/1ab	*Desmodium* sp.	Australia			
3322	RAD282/1	*Macroptilium atropurpureum*	Brazil		Slow	Neutral
3323	RAD282/13	*Macroptilium atropurpureum*	Brazil		Slow	Alkaline
3324	RAD758/1	*Trifolium steudeneri*	Ethiopia			Acid
3325	RAD294/2	*Macroptilium atropurpureum*	Brazil		Fast	Acid
3326	RAD497/1	*Vigna trilobata*	Burma			
3328	RAD24/1	*Leucaena leucocephala*	United States		Fast	Alkaline
3329	RAD24/2	*Leucaena leucocephala*	United States		Fast	Alkaline
3330	RAD24/3	*Leucaena leucocephala*	United States		Fast	Alkaline
3331	RAD24/4	*Leucaena leucocephala*	United States		Fast	Alkaline
3333	RAD30/3	*Leucaena leucocephala*	United States		Fast	Alkaline
3334	RAD30/4	*Leucaena leucocephala*	United States		Fast	Alkaline
3335	RAD44/1	*Leucaena leucocephala*	Mexico	Altamirano	Fast	Alkaline
3336	RAD44/2	*Leucaena leucocephala*	Mexico		Fast	Alkaline
3337	RAD53/5	*Leucaena diversifolia*	Mexico		Fast	Alkaline
3338	RAD54/1	*Leucaena esculenta*	Mexico		Fast	Alkaline
3340	RAD54/5	*Leucaena esculenta*	Mexico		Fast	Alkaline
3341	RAD54/7	*Leucaena esculenta*	Mexico	Altamirano	Fast	Alkaline
3342	RAD54/8	*Leucaena esculenta*	Mexico		Fast	Alkaline
3343	RAD54/9	*Leucaena esculenta*	Mexico		Fast	Alkaline
3344	RAD54/10	*Leucaena esculenta*	Mexico		Fast	Alkaline
3347	RAD59/1	*Leucaena leucocephala*	Mexico		Fast	Alkaline
3348	RAD59/2	*Leucaena leucocephala*	Mexico	Altamirano	Fast	Alkaline
3349	RAD59/3	*Leucaena leucocephala*	Mexico		Fast	Alkaline
3350	RAD59/6	*Leucaena leucocephala*	Mexico		Fast	Alkaline
3351	RAD59/7	*Leucaena leucocephala*	Mexico		Fast	Alkaline
3352	RAD71/2	*Leucaena leucocephala*	Mexico		Fast	Alkaline
3353	RAD71/3	*Leucaena leucocephala*	Mexico		Fast	Alkaline
3354	RAD71/4	*Leucaena leucocephala*	Mexico		Fast	Alkaline
3355	RAD71/5	*Leucaena leucocephala*	Mexico		Fast	Alkaline
3356	RAD71/6	*Leucaena leucocephala*	Mexico		Fast	Alkaline
3357	RAD71/9	*Leucaena leucocephala*	Mexico		Fast	Alkaline
3358	RAD73/2	*Leucaena leucocephala*	Mexico		Fast	Alkaline
3359	RAD83/1	*Leucaena leucocephala*	Mexico		Fast	Alkaline
3360	RAD83/2	*Leucaena leucocephala*	Mexico		Fast	Alkaline
3361	RAD83/4	*Leucaena leucocephala*	Mexico		Fast	Alkaline
3362	RAD83/7	*Leucaena leucocephala*	Mexico		Fast	Alkaline
3363	RAD83/8	*Leucaena leucocephala*	Mexico		Fast	Alkaline
3364	RAD96/1	*Leucaena leucocephala*	Mexico		Fast	Alkaline
3365	RAD96/2	*Leucaena leucocephala*	Mexico	Merida	Fast	Alkaline
3366	RAD96/3	*Leucaena leucocephala*	Mexico		Fast	Alkaline
3367	RAD96/5	*Leucaena leucocephala*	Mexico		Fast	Alkaline
3368	RAD96/6	*Leucaena leucocephala*	Mexico		Fast	Alkaline
3369	RAD96/8	*Leucaena leucocephala*	Mexico		Fast	Alkaline
3370	RAD119/1	*Leucaena leucocephala*	Antigua	Fitches Creek	Fast	Alkaline
3371	RAD119/2	*Leucaena leucocephala*	Antigua		Fast	Alkaline
3372	RAD119/3	*Leucaena leucocephala*	Antigua		Fast	Alkaline
3373	RAD119/4	*Leucaena leucocephala*	Antigua		Fast	Alkaline
3374	RAD119/5	*Leucaena leucocephala*	Antigua		Fast	Alkaline
3375	RAD119/6	*Leucaena leucocephala*	Antigua		Fast	Alkaline
3376	RAD139/1	*Leucaena leucocephala*	Antigua		Fast	Alkaline
3377	RAD230/4	*Leucaena leucocephala*	Colombia		Fast	Alkaline
3378	RAD230/5	*Leucaena leucocephala*	Colombia		Fast	Alkaline
3379	RAD230/7	*Leucaena leucocephala*	Colombia		Fast	Alkaline
3380	RAD237/1	*Leucaena leucocephala*	Colombia		Fast	Alkaline
3381	RAD237/3	*Leucaena leucocephala*	Colombia		Fast	Alkaline
3382	RAD237/4	*Leucaena leucocephala*	Colombia		Fast	Alkaline
3383	RAD237/5	*Leucaena leucocephala*	Colombia		Fast	Alkaline

CB No.	Original Label	Host Legume	Country	Town	Growth Rate	Reaction
3385	RAD250/2	*Leucaena leucocephala*	Colombia		Fast	Alkaline
3386	RAD250/3	*Leucaena leucocephala*	Colombia		Fast	Alkaline
3387	RAD250/4	*Leucaena leucocephala*	Colombia		Fast	Alkaline
3388	RAD250/5	*Leucaena leucocephala*	Colombia		Fast	Alkaline
3389	RAD250/6	*Leucaena leucocephala*	Colombia		Fast	Alkaline
3390	RAD250/7	*Leucaena leucocephala*	Colombia		Fast	Alkaline
3391	RAD250/8	*Leucaena leucocephala*	Colombia		Fast	Alkaline
3392	RAD250/9	*Leucaena leucocephala*	Colombia		Fast	Alkaline
3393	RAD250/10	*Leucaena leucocephala*	Colombia		Fast	Alkaline
3394	RAD250/11	*Leucaena leucocephala*	Colombia		Fast	Alkaline
3395	RAD250/12	*Leucaena leucocephala*	Colombia		Fast	Alkaline
3396	RAD250/13	*Leucaena leucocephala*	Colombia		Fast	Alkaline
3402	ST69/1	*Leucaena leucocephala*	Australia	Samford	Fast	
3403	ST69/2	*Leucaena leucocephala*	Australia	Samford	Fast	
3404	ST69/6	*Leucaena leucocephala*	Australia	Samford	Fast	
3405	ST69/8	*Leucaena leucocephala*	Australia	Samford	Fast	
3406	ST69/10	*Leucaena leucocephala*	Australia	Samford	Fast	
3407	ST69/12	*Leucaena leucocephala*	Australia	Samford	Fast	
3408	ST69/15	*Leucaena leucocephala*	Australia	Samford	Fast	
3409	ST69/18	*Leucaena leucocephala*	Australia	Samford	Fast	
3410	ST69/20	*Leucaena leucocephala*	Australia	Samford	Fast	
3411	ST69/24	*Leucaena leucocephala*	Australia	Samford	Fast	
3412	ST69/28	*Leucaena leucocephala*	Australia	Samford	Fast	
3413	ST70/1/2	*Leucaena leucocephala*	Australia	Weipa	Fast	Acid
3414	ST70/1/4	*Leucaena leucocephala*	Australia	Weipa	Fast	Acid
3415	ST70/1/8	*Leucaena leucocephala*	Australia	Weipa	Fast	Acid
3416	ST70/1/13	*Leucaena leucocephala*	Australia	Weipa	Fast	Acid
3417	ST70/2/2	*Leucaena leucocephala*	Australia	Weipa	Fast	Acid
3418	ST70/2/6	*Leucaena leucocephala*	Australia	Weipa	Fast	Acid
3419	ST70/2/10	*Leucaena leucocephala*	Australia	Weipa	Fast	Acid
3420	ST70/1/12	*Leucaena leucocephala*	Australia	Weipa	Fast	Acid
3421	ST71/1/2	*Leucaena leucocephala*	Australia	Lansdown	Fast	Acid
3422	ST71/2/1	*Leucaena pulverulenta*	Australia	Lansdown	Fast	Acid
3423	ST71/2/4	*Leucaena pulverulenta*	Australia	Lansdown	Fast	Acid
3425	ST71/2/9	*Leucaena pulverulenta*	Australia	Lansdown	Fast	Acid
3426	ST71/3/2	*Leucaena pulverulenta*	Australia	Lansdown	Fast	Acid
3427	ST71/3/4	*Leucaena pulverulenta*	Australia	Lansdown	Fast	Acid
3428	ST71/3/5	*Leucaena pulverulenta*	Australia	Lansdown	Fast	Acid
3429	ST71/3/7	*Leucaena pulverulenta*	Australia	Lansdown	Fast	Acid
3430	ST71/4/1	*Leucaena diversifolia*	Australia	Lansdown	Fast	Acid
3432	ST71/4/6	*Leucaena diversifolia*	Australia	Lansdown	Fast	Acid
3433	ST71/4/7	*Leucaena diversifolia*	Australia	Lansdown	Fast	Acid
3434	ST71/5/1	*Leucaena escullenta*	Australia	Lansdown	Fast	Acid
3435	ST71/5/3	*Leucaena escullenta*	Australia	Lansdown	Fast	Acid
3436	ST71/5/4	*Leucaena escullenta*	Australia	Lansdown	Fast	Acid
3437	ST71/5/6	*Leucaena escullenta*	Australia	Lansdown	Fast	Acid
3438	ST71/6/1	*Leucaena* sp.	Australia	Lansdown	Fast	Acid
3439	ST71/6/3	*Leucaena* sp.	Australia	Lansdown	Fast	Acid
3440	ST71/7/1	*Leucaena leucocephala*	Australia	Lansdown	Fast	Acid
3441	ST71/7/2	*Leucaena leucocephala*	Australia	Lansdown	Fast	Acid
3442	ST71/8/2	*Leucaena leucocephala*	Australia	Lansdown	Fast	Acid
3443	ST71/8/3	*Leucaena leucocephala*	Australia	Lansdown	Fast	Acid
3444	ST71/9/1	*Mimosa* sp.	Australia	Lansdown	Fast	Acid
3445	ST80/2	*Arachis hypogaea*	Burma			
3446	ST80/7/2B	*Arachis hypogaea*	Burma			
3447	ST80/15/4	*Vigna unguiculata*	Burma			
3448	ST80/16/1A	*Vigna lunata*	Burma			
3449	ST80/19/2A	*Clitoria ternatea*	Burma			
3450	ST80/23	*Clitoria ternatea*	Burma			

CB No.	Original Label	Host Legume	Country	Town	Growth Rate	Reaction
3451	RAD777/1	*Stylosanthes seabrana*	Australia	Hillgrove	Very slow	Alkaline
3452	RAD779/2	*Stylosanthes seabrana*	Australia	Hillgrove	Very slow	Alkaline
3454	RAD775/1	*Stylosanthes seabrana*	Australia	Roma	Slow	Alkaline
3456	RAD782/3	*Stylosanthes seabrana*	Australia	Cardigan	Very slow	Alkaline
3457	USDA110	*Glycine max*	United States		Slow	Alkaline
3458 #	INA4b	*Calliandra calothyrsus*	Indonesia		Fast	Acid
3460	INA5	*Calliandra calothyrsus*	Indonesia		Fast	Acid
3461	RAD899	*Swainsona galegifolia*	Australia	Brisbane		
3462	RAD892/1	*Arachis pintoi*	Malaysia	Serdang	Slow	Alkaline
3463	PMA21/1	*Acacia holosericea*				
3464	WU308	*Viminaria denudata*				
3465	32H1	*Vigna* sp.				
3466	CB81M1	*Leucaena leucocephala*	Australia	Brisbane		
3467	NGR8M1	*Leucaena leucocephala*	Papua New Guinea			
3468	CB756M1	*Macrotyloma africanum*	Zimbabwe	Marandellas		
3469	CB756M2	*Macrotyloma africanum*	Zimbabwe	Marandellas		
3470	CB756M3	*Macrotyloma africanum*	Zimbabwe	Marandellas		
3471	CB756M1M3	*Macrotyloma africanum*	Zimbabwe	Marandellas		
3472	CB627M2	*Desmodium intortum*	Zaire			
3473	CB627M3	*Desmodium intortum*	Zaire			
3474	CB627M5	*Desmodium intortum*	Zaire			
3478	PMA244	*Calliandra calothyrsus*				
3480 #	RAD969/52	*Stylosanthes seabrana*	Brazil	Barreiras	Very slow	Alkaline
3481 #	RAD1155/101	*Stylosanthes seabrana*	Brazil	Palmeiras	Very slow	Alkaline
3482 #	RAD985/6	*Stylosanthes macrocephala*	Brazil	Barreiras	Slow	Alkaline
3483	RAD1155/201	*Stylosanthes seabrana*	Brazil	Palmeiras		
3484	RAD1155/1	*Stylosanthes seabrana*	Brazil	Palmeiras	Very slow	Alkaline
3485	RAD969/13	*Stylosanthes seabrana*	Australia	Southedge	Very slow	Alkaline
3486	RAD1015/4	*Stylosanthes seabrana*	Australia		Very slow	Alkaline
3487	RAD1060/3	*Stylosanthes seabrana*	Australia		Very slow	Alkaline
3488	RAD1154/12	*Stylosanthes seabrana*	Brazil	Palmeiras	Very slow	Alkaline
3489	RAD1154/81	*Stylosanthes seabrana*	Brazil	Palmeiras	Very slow	Alkaline
3490	RAD1155/71	*Stylosanthes seabrana*	Brazil	Palmeiras	Very slow	Alkaline
3491	RAD1157/17	*Stylosanthes seabrana*	Brazil	Palmeiras	Intermediate	Acid
3492	RAD1170/23	*Stylosanthes seabrana*	Brazil	Cafamaum	Slow	Alkaline
3493	RAD1170/24	*Stylosanthes seabrana*	Brazil	Cafamaum	Slow	Alkaline
3494	RAD1171/13	*Stylosanthes seabrana*	Brazil	Seabra	Very slow	Alkaline
3495 #	RAD1171/162	*Stylosanthes seabrana*	Brazil	Seabra	Very slow	Alkaline
3496	RAD1176/6	*Stylosanthes seabrana*	Brazil	Ibotirama	Slow	Alkaline
3497	RAD1176/162	*Stylosanthes seabrana*	Brazil	Ibotirama	Slow	Alkaline
3498	QA560	*Clitoria ternatea*	Australia	Kairi		
3500	QA522	*Centrosema pubescens*	Australia	E.Barron		
3502	QA616	*Centrosema pubescens*	Australia	Coolum		
3503	QA618	*Neonotonia wightii*	Australia	Coolum		
3516	QA1071	*Acacia aneura*	Australia	Charleville		
3517	QA1072	*Psoralea tenax*	Australia	Norwin		
3522	RAD565/1	*Leucaena cuspidata*	Mexico			
3528	QA4287	*Trifolium glomeratum*	Australia	Thelimbah		
3535	QA9913	*Milletia australis*	Australia	Wacol		
3537	QA1061	*Phaseolus vulgaris*	Australia	Dalveen		
3538	QA1062	*Phaseolus vulgaris*	Australia	Kingaroy		
3539	QA1063	*Phaseolus vulgaris*	Australia	Kingaroy		
3546	CB3481	*Stylosanthes seabrana*	Brazil	Palmeiras		
3547	CB3126	*Leucaena leucocephala*	Mexico	Altamirano		
3548	RCR3644	*Phaseolus vulgaris*	Australia	Gosford		
3549	CIAT899	*Phaseolus vulgaris*	Colombia	Carmen de Vib.		
3550	CIAT899	*Phaseolus vulgaris*	Colombia	Carmen de Vib.		
3551	RAD1211/1	*Desmanthus acuminatus*	Argentina			
3552	RAD1211/4	*Desmanthus acuminatus*	Argentina			

CB No.	Original Label	Host Legume	Country	Town	Growth Rate	Reaction
3553	RAD1213/5	*Desmanthus virgatus*	Argentina			
3554	RAD1215/1	*Desmanthus virgatus*	Argentina			
3555	RAD1209/1	*Desmanthus virgatus*	Argentina			
3556	RAD1215/3	*Desmanthus virgatus*	Argentina			
3557	RAD1112/77	*Stylosanthes macrocephala*	Brazil	Pirapora		
3558	RAD1117/31	*Stylosanthes macrocephala*	Brazil	Porteirinha	Very slow	Neutral
3559	RAD1125/22	*Stylosanthes macrocephala*	Brazil	Carbonita	Intermediate	Acid
3560	RAD1129/23	*Stylosanthes* sp.	Brazil	Mendanha	Very slow	Alkaline
3561	RAD1133/36	*Stylosanthes viscosa*	Brazil	Jampruca	Very slow	Alkaline
3562	RAD1143/31	*Stylosanthes macrocephala*	Brazil	Piata		
3563	RAD1154/58	*Stylosanthes seabrana*	Brazil	Palmeiras	Very slow	Neutral
3564 #	RAD1154/56	*Stylosanthes seabrana*	Brazil	Palmeiras	Very slow	Alkaline
3565	RAD1179/14	*Stylosanthes macrocephala*	Brazil	Cristopolis	Very slow	Alkaline
3566	RAD1180/152	*Stylosanthes macrocephala*	Brazil	Barreiras	Very slow	Alkaline
3567	RAD1189/151	*Stylosanthes capitata*	Brazil	Campos Belos	Very slow	Neutral

The Host List

Host Legume	CB Strain(s) Isolated from Host Legume
Acacia aneura	3516
Acacia holosericea	3463
Acacia mangium	3156 3236
Aeschynomene falcata	464 2312 2388 2390 2391
Alysicarpus vaginalis	278
Arachis diogoi	31
Arachis hypogaea	746 3094 3445 3446
Arachis monticola	2802
Arachis pintoi	2927 3036 3462
Arachis prostrata	530
Cajanus cajan	136 483 987 3056 3068 3069
Calliandra calothyrsus	3166 3171 3282 3458 3460 3478
Calliandra inaequilatera	3169
Centrosema sp.	1895
Centrosema brasilianum	2947 2948 2949
Centrosema macrocarpum	3125
Centrosema plumieri	1698
Centrosema pubescens	1103 1491 1494 1922 1923 3500 3502
Centrosema schottii	2944
Chamaecytisus palmensis	3074
Cicer arietinum	2855
Clitoria ternatea	279 3449 3450 3498
Codariocalyx gyroides	2121
Coronilla varia	2012
Crotalaria brevidens	188
Crotalaria sagittalis	895
Desmanthus acuminatus	3551 3552
Desmanthus fruticosus	3132
Desmanthus virgatus	3133 3553 3554 3555 3556
Desmodium sp.	1263 1524 3321
Desmodium adscendens	1632
Desmodium barbatum	1627
Desmodium canum	1564
Desmodium heterophyllum	2085 2123 2163 2164
Desmodium intortum	627 1027 3077 3078 3079 3080 3081 3096 3097 3098
	3099 3100 3101 3472 3473 3474
Desmodium pabulare	1517
Desmodium tortuosum	1622
Desmodium triflorum	46
Desmodium uncinatum	128 187
Dolichos sp.	1318
Dolichos argenteus	1406
Dolichos sericeus	769
Dolichos trilobus	159
Gliricidia sepium	3057 3059 3083 3084 3085 3086 3087 3088 3089 3090
	3091 3092
Glycine clandestina	327 2795 2796
Glycine max	1003 1668 1753 1786 1791 1793 1794 1795 1797 1799
	1802 1803 1805 1808 1809 1810 1911 1924 1925 1926
	1929 1930 1932 1934 1935 1936 1940 1941 1942 1943
	2016 2885 2940 3197 3283 3457
Glycine tabacina	291 2987

Host Legume	CB Strain(s) Isolated from Host Legume
Glycine tomentella	232 1908
Indigofera sp.	356
Indigofera arrecta	345 349
Indigofera australis	334
Indigofera colutea	163
Indigofera hirsuta	350
Indigofera mucronata	344
Indigofera suffruticosa	331 333 341 348
Indigofera trifoliata	152
Indigofera trita	336 337 358
Lablab purpureus	463 1091
Leucaena sp.	3438 3439
Leucaena cuspidata	3522
Leucaena diversifolia	3060 3109 3337 3430 3432 3433
Leucaena escullenta	3127 3338 3340 3341 3342 3343 3344 3434 3435 3436 3437
Leucaena greggii	3299
Leucaena leucocephala	81 430 947 948 952 1149 1353 2154 2914 2915 2919 2920 2921 2922 2923 3126 3128 3129 3130 3138 3328 3329 3330 3331 3333 3334 3335 3336 3347 3348 3349 3350 3351 3352 3353 3354 3355 3356 3357 3358 3359 3360 3361 3362 3363 3364 3365 3366 3367 3368 3369 3370 3371 3372 3373 3374 3375 3376 3377 3378 3379 3380 3381 3382 3383 3385 3386 3387 3388 3389 3390 3391 3392 3393 3394 3395 3396 3402 3403 3404 3405 3406 3407 3408 3409 3410 3411 3412 3413 3414 3415 3416 3417 3418 3419 3420 3421 3440 3441 3442 3443 3466 3467 3547
Leucaena pulverulenta	3422 3423 3425 3426 3427 3428 3429
Leucaena retusa	3297 3298
Leucaena trichodes	3131
Listia heterophylla	768
Lotononis angolensis	1297 1298 1299 1321 1322 1323 2406 2645
Lotononis bainesii	360 376 730 1775 1776 1777 1778 1779 2343 2344
Lotononis mucronata	2695 2705
Lotononis orthorrhiza	2676
Lotononis platycarpos	2648
Lotononis stipulosa	1394
Lotus corniculatus	2938
Lotus maroccanus	1300
Lotus uliginosus	1209 2270
Macroptilium atropurpureum	2794 2797 2803 3322 3323 3325
Macroptilium erythroloma	1717
Macroptilium lathyroides	27 54 121 170
Macrotyloma africanum	756 3284 3468 3469 3470 3471
Macrotyloma axillare	3035
Macrotyloma uniflorum	454 1024
Medicago sp.	112 214
Medicago rugosa	2273 3061
Medicago sativa	61 113 115 118 119 217 227 257 813 967 1035 1170 1368 1445 1446
Medicago truncatula	64 98 110
Milletia australis	3535
Mimosa sp.	3444

Host Legume	CB Strain(s) Isolated from Host Legume									
Mimosa pigra	3318									
Neonotonia wightii	439	453	1057	1267	1914	1915	1916	1918	2195	3503
Neptunia sp.	924									
Neptunia gracilis	2001	2002	2003	2004						
Neptunia plena	1397									
Onobrychis viciifolia	2000									
Ornithopus compressus	2026									
Phaseolus vulgaris	1071	1224	2899	3537	3538	3539	3548	3549	3550	
Pisum sativum	1447	1992								
Prosopis chilensis	3108									
Psoralea tenax	3517									
Rhynchosia minima	3319	3320								
Schleinitzia insularum	2929									
Sesbania sp.	3303									
Sesbania erubescens	2743	3023								
Sesbania grandiflora	3200	3237	3300	3301						
Sesbania sesban	3287									
Stylosanthes sp.	1272	1727	2212	2216	3055	3256	3294	3560		
Stylosanthes capitata	2898	3048	3049	3154	3241	3295	3296	3306	3307	3308
	3567									
Stylosanthes fruticosa	273	1984	2168							
Stylosanthes guianensis	44	82	1408	1552	1580	1650	2033	2150	2229	2248
	2286	2325	2354	2464	2534	2793	2843	2844	2851	2852
	3050	3051	3052	3275						
Stylosanthes hamata	2126	2134	2135	2136	2152	2837	2839	2841	3043	3053
	3289	3290	3291	3292	3293					
Stylosanthes humilis	76	103	105	319	516	1675	1689	1782	2144	
Stylosanthes macrocephala	3482	3557	3558	3559	3562	3565	3566			
Stylosanthes seabrana	3451	3452	3454	3456	3480	3481	3483	3484	3485	3486
	3487	3488	3489	3490	3491	3492	3493	3494	3495	3496
	3497	3546	3563	3564						
Stylosanthes viscosa	3561									
Swainsona galegifolia	3461									
Teramnus uncinatus	484									
Trifolium ambiguum	3120									
Trifolium baccarinii	2198									
Trifolium burchellianum	727									
Trifolium calocephalum	3316									
Trifolium cryptopodium	3314									
Trifolium decorum	3315									
Trifolium glomeratum	3528									
Trifolium isthmocarpum	806									
Trifolium mattirolianum	3312									
Trifolium multinerve	3313									
Trifolium polystachyum	3311									
Trifolium repens	1	147	1444							
Trifolium rueppellianum	714	766	772	774						
Trifolium semipilosum	526	763	778	782	788	2031	2032	2116	2117	
Trifolium simense	2288	3310								
Trifolium steudeneri	3324									
Trifolium subterraneum	3	867	875	876	1990	2178	2179	2937		
Trifolium tembense	758	773								
Trifolium usambarense	771	775								
Vigna sp.	2368	3465								

Host Legume	CB Strain(s) Isolated from Host Legume						
Vigna lunata	3448						
Vigna marina	915						
Vigna mungo	284	985	1011	1243	1247		
Vigna oblongifolia	786						
Vigna parkeri	3245	3246					
Vigna radiata	451	512	661	890	1015	1017	1042
Vigna trilobata	3326						
Vigna unguiculata	45	233	3164	3165	3243	3244	3447
Viminaria denudata	3464						
Zornia brasiliensis	2190						
Zornia diphylla	328	1546					

List of Legumes and Strains Forming Effective N-fixing Associations

Host Legume	Accession No./ Cultivar	CB Strain Accession Number
Abrus precatorius		756
Acacia aneura		3516
Acacia holosericea		3463
Acacia mangium		3236
Acacia mangium	CPI15063	3156
Aeschynomene americana	Glenn	2312 2388
Aeschynomene americana	Lee	2312 2388
Aeschynomene braziliana	CPI92519	2312 2388 2390
Aeschynomene braziliana	CPI93593	2388
Aeschynomene falcata	CPI11500	464 2312 2388 2390 2391
Aeschynomene villosa	CPI37235	2312 2388 2390
Aeschynomene villosa	CPI91209	2312 2388
Aeschynomene villosa	CPI93621	2312 2388
Albizia lebbeck		3035 3090
Alysicarpus rugosus	CPI29736	278
Alysicarpus vaginalis		756 985 1015 1024 1243 3036
Arachis sp.	CPI58121	530 756 985 1024 2802 3125 3165 3462
Arachis burkartii	CPI58109	530 756 2802 3094 3125
Arachis hypogaea	Commercial	3094 3125
Arachis hypogaea	Natal	31 530 746 756
Arachis hypogaea	Red Spanish	31 530 746 756 985 1024 3036 3125 3445 3446 3447 3448 3449 3450 3462
Arachis hypogaea	Spanish Imp	530 756 2190 2927 3036
Arachis hypogaea	Virginia	31 44 82 746
Arachis hypogaea	CPI13970A	530 756 2802
Arachis monticola	CPI58115B	530 756 3094 3125
Arachis monticola	CQ990	530 756 2802
Arachis paraguariensis	CPI91419	3094 3125
Arachis pintoi	Amarillo	530 756 2802 2927 3036 3094 3125
Arachis pusilla	CPI58116	530 756 2802
Arachis stenosperma	CPI91420	530 3094 3125
Arachis villosa	CPI58118	530 3036 3125 3462
Cajanus cajan		3069 3074
Cajanus cajan	B15B	756 1024 3056 3068
Cajanus cajan	Hunt	756 1024 3056 3068
Cajanus cajan	Quantum	756 1024 3056 3068
Cajanus cajan	CPI29947	136 483 756 987
Calliandra calothyrsus		3166 3169 3171 3282 3478
Calliandra calothyrsus	CPI115690	3059 3090 3169 3171 3458 3460
Calopogonium caeruleum		756
Centrosema brasilianum	CPI55698	2944 2947 2949
Centrosema pubescens		1103 1491 1494 1698 1895 1922 1923 3500 3502
Centrosema pubescens	Belalto	1923 2947 2948
Cicer arietinum		2855
Clitoria lanceolata		756
Clitoria ternatea		279 756 1015 1024 3319 3320 3321 3498
Clitoria ternatea	CPI38284	82 159 756 985 1024 1717
Codariocalyx gyroides	CPI32893	627 1517 2121
Coronilla varia		2012
Crotalaria lanceolata		188

Host Legume	Accession No./ Cultivar	CB Strain Accession Number
Cyamopsis psoraloides	CPI10329	121 756 895
Cyamopsis senegalensis	CPI60225	985 1015 1024 3036
Cyamopsis tetragonolobus		756 1015 1024 3319 3320 3321
Cyamopsis tetragonolobus	S16	756 985 1024 3036
Cyamopsis tetragonolobus	S36	756 985 1024 3036
Cyamopsis tetragonolobus	S48	756 985 1024
Cyamopsis tetragonolobus	S6	756 985 1024 3036
Desmanthus sp.	CPI39063	2001 3108 3126 3128 3129 3130 3551 3552 3553 3554 3556
Desmanthus acuminatus	CPI37538	1397 3126 3127 3551
Desmanthus brevipes	CPI90362	948 1397 3108 3126 3127 3128 3130 3132 3138
Desmanthus covillei	CPI90311	948 1397 3059
Desmanthus covillei	CPI90816	948 1397 2001 3060 3108 3126 3127 3128 3129 3130 3131 3132 3133 3138
Desmanthus fruticosus	CPI84960	948 1397 3059 3060 3108 3126 3127 3128 3129 3130 3131 3132 3133 3138
Desmanthus illinoensis	CPI90364	948 1397 3059 3060 3126 3132 3133
Desmanthus leptophyllus	Bayamo	3126 3128 3129 3130 3553 3554 3555 3556
Desmanthus leptophyllus	Uman	1397 3059 3060 3108 3126 3127 3128 3129 3130 3131 3132 3133 3138 3553 3554 3555 3556
Desmanthus leptophyllus	CPI92655	3126 3128 3129 3130 3553 3554 3555 3556
Desmanthus paspalaceus	CPI78382	948 1397 2001 3059 3060 3108 3126 3127 3128 3129 3130 3131 3132 3138 3553 3554 3555 3556
Desmanthus pernambucanensis	CPI92585	2001 3108 3126 3128 3129 3130 3551 3552 3553 3554 3555 3556
Desmanthus pubescens	CPI92814	3108 3126 3128 3129 3130 3553 3554 3555 3556
Desmanthus subulatus	CPI90857	1397 2001 3059 3060 3108 3126 3127 3128 3129 3130 3131 3132 3133 3138
Desmanthus tatuhyensis	ATF2247	2001 3108 3126 3130 3551 3552 3553 3554 3556
Desmanthus virgatus		3547
Desmanthus virgatus	Marc	1397 3108 3127 3130 3554 3555 3556
Desmanthus virgatus	CPI30205	948 1397 2002 3059 3060 3108 3126 3127 3132 3133 3138
Desmanthus virgatus	CPI33201	1397 3128 3130 3132
Desmanthus virgatus	CPI37143	948 1397 2001 3059 3060 3126 3127 3128 3129 3130 3131 3132 3133 3138
Desmanthus virgatus	CPI38351	948 1397 3059 3060 3126 3127 3128 3129 3130 3131 3132
Desmanthus virgatus	CPI40071	81 948 1397 3059 3060 3126 3127 3128 3130 3131 3133 3138
Desmanthus virgatus	CPI55719	948 1397 2001 3059 3060 3108 3126 3127 3128 3129 3130 3131 3132 3133
Desmanthus virgatus	CPI65497	1397
Desmanthus virgatus	CPI65947	1397 3060 3127 3128 3129 3130 3131 3132
Desmanthus virgatus	CPI67642	1397 3060
Desmanthus virgatus	CPI76052	81 948 1397
Desmanthus virgatus	CPI76503	948 1397
Desmanthus virgatus	CPI78369	81 948 1397 2001 3059 3060

Host Legume	Accession No./ Cultivar	CB Strain Accession Number
Desmanthus virgatus	CPI78372	1397 2001 3108 3127 3128
Desmanthus virgatus	CPI78379	81 1397 3059 3108 3126 3133 3138
Desmanthus virgatus	CPI78381	81 1397 3059 3060 3133
Desmanthus virgatus	CPI78385	81 3133 3138
Desmanthus virgatus	CPI79653	948 1397 2001 3059 3108 3126 3128 3129 3130 3131 3132 3553 3554 3555 3556
Desmanthus virgatus	CPI81337	81 948 1397 2001 3059 3060 3108 3126 3127 3128 3129 3130 3131 3132 3133 3138
Desmanthus virgatus	CPI83570	3130
Desmanthus virgatus	CPI84508	1397 2001 3108 3126 3127 3128 3129 3130 3131 3132 3133 3138
Desmanthus virgatus	CPI84991	81 948 1397 2001 3059 3060
Desmanthus virgatus	CPI85177	948 1397 3108 3126 3127 3128 3129 3130 3131 3132
Desmanthus virgatus	CPI85178	948 1397 2001 3059 3060 3108 3126 3127 3128 3129 3130 3131 3132 3553 3554 3555 3556
Desmanthus virgatus	CPI85179	948 1397 2001 3108 3126 3127 3128 3129 3130 3131 3132 3133 3138
Desmanthus virgatus	CPI85182	948 1397 3059 3060
Desmanthus virgatus	CPI90750	948 1397 3108 3126 3127 3128 3129 3130 3131 3132 3133
Desmanthus virgatus	CPI90751	948 1397 3059 3060 3108 3126 3127 3128 3129 3130 3131 3132 3133 3138
Desmanthus virgatus	CPI90754	948 1397 3059 3060 3108 3126 3127 3128 3129 3130 3131 3132 3133 3138
Desmanthus virgatus	CPI90755	948 1397 3059 3108 3126 3127 3128 3129 3130 3131 3132
Desmanthus virgatus	CPI90914	1397 3059
Desmanthus virgatus	CPI91146	948 1397 3108 3126 3127 3128 3129 3130 3131 3132 3133 3138
Desmanthus virgatus	CPI91326	948 1397 3059 3060 3126 3127 3128 3129 3130 3131 3132 3138
Desmanthus virgatus	CPI91496	948 1397 3059 3060
Desmanthus virgatus	CPI92800	1397 3060
Desmanthus virgatus	CPI92805	948 1397 3059 3060
Desmanthus virgatus	CPI92818	948 3060 3126 3127 3128 3129 3130 3132
Desmanthus virgatus	TQ90	948 1397 3060 3126 3127 3128 3129 3130 3131 3132 3133
Desmodium adscendens		1517
Desmodium distortum	CPI28324	627 756 1057
Desmodium heterophyllum	CPI31953	46
Desmodium heterophyllum	QA934	2085 2123 2163 2164
Desmodium intortum		627 1027 1517 1524 1622 1627 1632 3077 3078 3079 3081 3096 3097 3098 3099 3100 3101 3472 3473 3474
Desmodium intortum	Greenleaf	128 627 756 1057 128 627 756 1057 128 627 756 1057
Desmodium uncinatum	Silverleaf	121 128 187 627 756 1263 1517 1524 1564 1622 1632
Dolichos sericeus	CPI25360	121 159 756 769
Dolichos trilobus	CPI15932	159 454 756
Gliricidia sepium	Bali	3057 3059 3083 3084 3085 3086 3087 3088

Host Legume	Accession No./ Cultivar	CB Strain Accession Number
		3089 3090 3091 3092
Gliricidia sepium	West Indian	3057 3059 3083 3084 3085 3086 3087 3088
		3089 3090 3091 3092
Glycine latifolia	CQ3368	159 756 985 1024 1243 1908 2795 2987
Glycine max		1808 1936 2885 3283 3457
Glycine max	Bourke	1003 1753 1786 1791 1793 1794 1795 1797
		1799 1802 1803 1805 1809 1810 1911 1924
		1925 1926 1929 1930 1932 1934 1935 1940
		1941 1942 1943
Glycine max	Davis	1809 2940
Glycine max	Dorman	1799 1809 1924 1926
Glycine max	Hardee	2016
Glycine max	Hill	1799 1809 1924 1926
Glycine max	Leslie	1003 1753 1786 1791 1793 1794 1795 1799
		1802 1803 1805 1809 1810 1911 1924 1925
		1926 1930 1932 1934 1935 1942
Glycine max	Masoy	327 1003
Glycine max	Nanda	327 439 453 1003 1668 1753 1786 1791
		1793 1794 1795 1799 1802 1803 1805 1809
		1810 1911 1924 1925 1926 1929 1930 1932
		1934 1935 1940 1941 1942 1943
Glycine max	Wills	1003 1753 1786 1791 1794 1795 1799 1802
		1803 1805 1809 1911 1925 1926 1929 1932
		1934 1935 1940 1941 1942
Glycine max	27	1003
Glycine max	37	1003
Glycine max	3937	1003
Glycine max	40	327 1003
Glycine max	57	1003
Glycine max	CPI17192	121 327 756 1003
Glycine max	MBH72113	1003 1786 1791 1795 1802 1809 1911 1934
Indigofera hirsuta	CPI21352	350 756
Indigofera schimperi	CPI16055	756 1015 1024
Indigofera schimperi	CPI52621	1024
Indigofera schimperi	CPI65477	1015 1024
Indigofera schimperi	CPI69495	1015
Indigofera spicata	CPI11412	45 152 163 233 331 333 334 336
		337 341 344 345 348 349 350 356
		358
Indigofera spicata	CPI24205	756
Kummerowia striata	Kobe	159 756
Kummerowia striata	Local a	159 756
Kummerowia striata	Local b	159 756
Lablab purpureus	Rongai	159 454 756 1024 1091 1406
Lablab purpureus	CPI23551	159 170 454 756 769
Lablab purpureus	CPI34004	159 454 463 756 769 1024 1091 1406
Lablab purpureus	CPI34777	159 463 756 1024 1091 1406
Lespedeza juncea	Sericea	159 756
Lespedeza sericea	Arlington	159
Lespedeza sericea	Local a	756
Lespedeza sericea	Local b	159 756
Lespedeza sericea	Okinawa	159 756
Lespedeza stipulacea	Summit	159 756

Host Legume	Accession No./ Cultivar	CB Strain Accession Number
Leucaena collinsii	OFI52/88	948 3060 3108 3126 3128 3131 3298 3361 3427 3522
Leucaena collinsii	OFI56/88	948 3060 3108 3126 3128 3131 3298 3361 3427 3522
Leucaena cuspidata	OFI83/94	948 3060 3108 3126 3131 3361 3427 3522
Leucaena diversifolia		3109
Leucaena diversifolia	CPI33820	3060 3108 3298
Leucaena diversifolia	OFI83/92	948 3060 3108 3126 3128 3131 3138 3298 3361 3427 3522
Leucaena divers. x leucoc.	EMH Hybrid	3060 3108 3138 3171 3458
Leucaena divers. x leucoc.	K156xK8	948 3060 3108 3126 3128 3131 3138 3298 3361 3427 3522
Leucaena esculenta	OFI47/87	948 3060 3108 3126 3128 3131 3138 3298 3361 3427 3522
Leucaena greggii	CPI91198	3108
Leucaena greggii	OFI82/87	948 3060 3108 3126 3128 3131 3138 3361 3427 3522
Leucaena involucrata	OFI87/92	948 3060 3108 3126 3128 3131 3138 3298 3361 3427 3522
Leucaena lanceolata	OFI43/85	948 3108 3126 3131 3298 3361 3427 3522
Leucaena lanceolata	OFI50/87	948 3060 3108 3126 3128 3131 3298 3361 3427 3522
Leucaena lempirana	OFI6/91	948 3060 3108 3126 3128 3131 3138 3298 3361 3427 3522
Leucaena leucocephala		3466 3467
Leucaena leucocephala	Cunningham	81 924 948 1149 1397 2001 2002 2003 2004 2914 2915 2919 2920 2922 2923 2929 3060 3108 3126 3128 3131 3138 3171 3297 3298 3299 3328 3329 3330 3331 3333 3334 3335 3336 3337 3338 3340 3341 3342 3343 3344 3347 3348 3349 3350 3351 3352 3353 3354 3355 3356 3357 3358 3359 3360 3361 3362 3363 3364 3365 3366 3367 3368 3369 3370 3371 3372 3373 3374 3375 3376 3377 3378 3379 3380 3381 3382 3383 3385 3386 3387 3388 3389 3390 3391 3392 3393 3394 3395 3396 3402 3403 3404 3405 3406 3407 3408 3409 3410 3411 3412 3413 3414 3415 3416 3417 3418 3419 3420 3421 3422 3423 3425 3426 3427 3428 3429 3430 3432 3433 3434 3435 3436 3437 3438 3439 3440 3441 3442 3443 3444 3458 3522
Leucaena leucocephala	Line 3	81
Leucaena leucocephala	Peru	81 430 947 948 952 1149 1353 2154 2919 2920 2921 2922
Leucaena macrophylla	OFI47/85	948 3060 3108 3126 3128 3131 3138 3298 3361 3427 3522
Leucaena macrophylla	OFI55/88	948 3060 3108 3126 3128 3131 3138 3298 3361 3427 3522
Leucaena magnifica	OFI19/84	948 3060 3108 3126 3128 3131 3138 3298 3361 3427 3522
Leucaena matudae	OFI49/87	948 3060 3108 3126 3128 3131 3138 3298 3361 3427 3522

Host Legume	Accession No./ Cultivar	CB Strain Accession Number
Leucaena multicapitula	OFI81/87	948 3060 3108 3126 3128 3131 3298 3361 3427 3522
Leucaena pallida	OFI52/87	948 3060 3108 3126 3128 3131 3138 3298 3361 3427 3522
Leucaena pallida x leucoc.	K376xK8	948 3060 3126 3128 3427 3522
Leucaena pueblana	OFI125/92	948 3060 3108 3128 3131 3361 3427 3522
Leucaena pulverulenta	B46	3060 3108 3138 3197 3298
Leucaena pulverulenta	OFI83/87	948 3060 3108 3126 3128 3131 3138 3298 3361 3427 3522
Leucaena retusa	CPI85171	3060 3297
Leucaena retusa	CPI85211	3060 3297 3298
Leucaena retusa	OFI23/86	948 3060 3108 3126 3128 3131 3138 3298 3361 3427 3522
Leucaena salvadorensis	OFI36/88	948 3060 3108 3126 3128 3131 3138 3298 3361 3427 3522
Leucaena shannonii	OFI135/92	948 3060 3108 3126 3128 3131 3298 3361 3427 3522
Leucaena trichandra	OFI4/91	948 3060 3108 3126 3128 3131 3361 3427 3522
Leucaena trichandra	OFI53/88	948 3060 3126 3128 3131 3298 3361 3427 3522
Leucaena trichodes	OFI61/88	948 3060 3108 3126 3128 3131 3138 3298 3361 3427 3522
Listia heterophylla	CPI18424	376 730 768 1775 2343
Lotononis angolensis	Commercial	1297 1298 1299 1321 1322 1323 2406
Lotononis angolensis	CPI26293	1323
Lotononis angolensis	CPI32585	1323 2645
Lotononis angolensis	CPI32655	1323 2406
Lotononis angolensis	CPI32953	1323 2406 2645
Lotononis angolensis	CPI43777	1323 2406 2645
Lotononis bainesii	Miles	360 376 730 768 1775 1776 1777 1778 1779 2343 2344
Lotononis bainesii	CPI24130	376 1775 2343
Lotononis bainesii	CPI31810	376 730 1775 2343
Lotononis bainesii	CPI47573	376 730 1775 2343
Lotononis bainesii	CPI47574	376 730 1775 2343
Lotononis bainesii	CPI47575	376 730 1775 2343
Lotononis bainesii	CPI61572	376 730 1775 2343
Lotononis bainesii	CQ1114	376 730 1775 2343
Lotononis laxa	CPI36287	376
Lotononis laxa	CPI62213	2648
Lotononis leptoloba	CPI60280	376
Lotononis mucronata	CPI60286	1323 2695 2705
Lotononis mucronata	CPI60287	2705
Lotononis mucronata	CPI60288	2695
Lotononis mucronata	CPI62214	376
Lotononis orthorrhiza	CPI60289	2676
Lotononis stipulosus	CQ1332	1394
Lotus corniculatus		2938
Lotus edulis	CPI32565	1300
Lotus maroccanus	CPI23601	1300
Lotus pedunculatus		2270
Lotus uliginosus	Major	1209

Host Legume	Accession No./ Cultivar	CB Strain Accession Number							
Macroptilium atropurpureum		2794	2796	3284	3465	3468	3469	3470	3471
Macroptilium atropurpureum	Rustproof	82	328	530	756	985	1024	1243	1650
		1717							
Macroptilium atropurpureum	Siratro	54	82	103	121	170	328	451	512
		530	756	985	1024	1243	1650	1675	1717
		1727	2033	2126	2229	2248	3319	3320	3321
Macroptilium atropurpureum	CPI18556	121	170	284	451	512	661	890	
Macroptilium bracteatum	CPI27404	1717	3125						
Macroptilium lathyroides		121	170	284	512	756			
Macroptilium martii	CPI49780	451	1717						
Macroptilium panduratum	CPI78439	1717							
Macrotyloma africanum	CPI24972	45	121	159	170	233	454	756	
Macrotyloma axillare	CPI17814	45	121	159	170	233	454	756	786
Macrotyloma daltonii		756	1024	3319	3320	3321			
Macrotyloma uniflorum	CPI14629	45	121	159	170	233	454	756	769
Medicago polymorpha		112							
Medicago rugosa		2273	3061						
Medicago sativa		61	64	110	113	115	118	257	813
		967	1035	1170	1368	1445	1446		
Medicago sativa	African a	112	1170	1445	1446				
Medicago sativa	African b	112	1170	1445	1446				
Medicago sativa	Hairy Peru	112	227	1170	1445	1446			
Medicago scutellata		61	967	1445					
Medicago truncatula	Jemalong	61	64	98	110	112	113	115	119
		214	217	227	257	967	1035	1445	
Medicago truncatula	Woodside	61	967	1445					
Milletia australis		3535							
Mimosa pigra		3318							
Neonotonia wightii		756	985	1024	1243	3036	3503		
Neonotonia wightii	Clarence	439	453	756	1057	1908	1918	2195	
Neonotonia wightii	Cooper	453	756	1057	1267	1668	1908	1915	1916
		1918							
Neonotonia wightii	Tinaroo	453	756	1057	1267	1668	1908	1914	1916
		1918							
Neonotonia wightii	CPI16673	121	232	291	327	439	453	756	1057
Neonotonia wightii	CPI18419	453	756	1057	1918				
Neonotonia wightii	CPI25421	453	756	1057	1918				
Neonotonia wightii	CPI25700	453	1057	1908	1918				
Neonotonia wightii	CPI25703	453	756						
Neonotonia wightii	CPI25919	453	756	1057	1908	1918			
Neonotonia wightii	CPI29744	453	756	1908	1918				
Neonotonia wightii	CPI30366	453	1057	1918					
Neonotonia wightii	CPI30497	453	756	1057	1918				
Neonotonia wightii	CPI32862	453	756	1057	1918				
Neonotonia wightii	CPI32942	756	1908	1918					
Neonotonia wightii	CPI32944	453	756	1057	1918				
Onobrychis viciifolia		2000							
Ornithopus compressus		2026							
Otoptera burchellii	CPI60314	530	627	756	985	1015	1024	3165	
Phaseolus coccineus	CPI37026	121	170	890	1071	1224			
Phaseolus coccineus	CPI37028	121	170	512	890	1071	1224		
Phaseolus coccineus	CPI37029	170							
Phaseolus coccineus	CPI37030	121	170	512	890	1071	1224		

Host Legume	Accession No./ Cultivar	CB Strain Accession Number
Phaseolus vulgaris		2899 3537 3538 3539 3548 3549 3550
Phaseolus vulgaris	French	121 170 512 890 1071 1224
Pisum sativum		1447 1992
Psoralea tenax		3517
Pueraria phaseoloides	CPI16864	756
Pueraria phaseoloides	CPI32118	756
Rhynchosia minima		756 985 1024 3036
Sesbania aculeata		3200 3300 3301 3303
Sesbania erubescens		3023 3200 3300 3301
Sesbania grandiflora		3237
Sesbania grandiflora	CQ2709	756 2743 3023 3200 3300 3301
Sesbania sesban		3287
Stylosanthes sp. A	CPI34148	82 103 328 756 2229 2248
Stylosanthes sp. B	CPI55797	530 756 2248
Stylosanthes angustifolia	CPI33433	2168
Stylosanthes angustifolia	CPI40236	756
Stylosanthes calcicola	CPI36045	2033 2126 2144
Stylosanthes calcicola	CPI73524	3050
Stylosanthes calcicola	CPI73525	2126
Stylosanthes capitata		3256
Stylosanthes capitata	CPI40238	2898 3049 3055
Stylosanthes capitata	CPI40240	2898 3048 3049 3050 3051 3052 3055 3289
Stylosanthes capitata	CPI40240A(1)	2898
Stylosanthes capitata	CPI40240B	2898 3055
Stylosanthes capitata	CPI40241	2898 3049 3050 3055 3294
Stylosanthes capitata	CPI49809B	2898 3055
Stylosanthes capitata	CPI50261A	3049
Stylosanthes capitata	CPI52061A	2898 3055 3289
Stylosanthes capitata	CPI52061B	2898
Stylosanthes capitata	CPI52069	2898 3055
Stylosanthes capitata	CPI52169	2898 3049
Stylosanthes capitata	CPI55840	2898 3049 3055
Stylosanthes capitata	CPI55843	2898 3049 3055
Stylosanthes capitata	CPI75149	2898 3055
Stylosanthes capitata	CPI81403	2898 3048 3049 3050 3051 3052 3055
Stylosanthes capitata	CQ1673	2898 3055
Stylosanthes erecta	CPI34113B	756
Stylosanthes erecta	CPI34114	756
Stylosanthes erecta	CPI34118	44 82 103 159 328 530 756 1272 1408 1552 1650 1675 1727 1984 2033 2144 2152 2168 2229 2248
Stylosanthes fruticosa	CPI25368	756
Stylosanthes fruticosa	CPI32717	82 103 328 530 756 1272 1408 1650 1675 1984
Stylosanthes fruticosa	CPI32717A	756
Stylosanthes fruticosa	CPI32717B	756
Stylosanthes fruticosa	CPI32871	756
Stylosanthes fruticosa	CPI33517	756
Stylosanthes fruticosa	CPI34119	756
Stylosanthes fruticosa	CPI40615	756
Stylosanthes fruticosa	CPI40764	756
Stylosanthes fruticosa	CPI41116	82 103 159 530 756 1272 1408 1650 1675

Host Legume	Accession No./ Cultivar	CB Strain Accession Number
Stylosanthes fruticosa	CPI41117	756
Stylosanthes fruticosa	CPI41118	756
Stylosanthes fruticosa	CPI41219	82 328 756 985 1015 1024 1243 1272 1408 1552 1675 2033 2126 2152 2168 2229 3036
Stylosanthes fruticosa	CPI41219A	82 103 159 328 530 756 1272 1408 1650 1675 1984 2033 2126 2152 2168 2229 2248
Stylosanthes fruticosa	CPI41220A	756
Stylosanthes fruticosa	CPI41220B	756
Stylosanthes fruticosa	CPI43349	756
Stylosanthes fruticosa	CPI45174A	756
Stylosanthes fruticosa	CPI45175	756
Stylosanthes fruticosa	CPI45249	756
Stylosanthes fruticosa	CPI47067	756
Stylosanthes fruticosa	CPI47068	756
Stylosanthes fruticosa	CPI48386	756
Stylosanthes fruticosa	CPI48387	756
Stylosanthes fruticosa	Q8361	82 103 328 1408 1650 1675 2126 2152 2248
Stylosanthes guianensis		2793 3275
Stylosanthes guianensis	Cook	82 103 159 328 530 756 1408 1580 1650 1727 2033 2168 2229 2248
Stylosanthes guianensis	Endeavour	82 103 159 328 756 1650
Stylosanthes guianensis	Graham	82 103 530 756 1024 1408 1727 2168 2229 2248
Stylosanthes guianensis	Oxley	82 159 328 530 1408 1552 1580 1650 1727 2033 2150 2168 2212 2216 2229 2248 2286 2325 2354 2464 2534 2841 2843 2851 2852
Stylosanthes guianensis	Schofield	44 76 82 103 105 159 328 516 530 756 1408 1552 1580 1650 1675 1727 2033 2168 2229 2248
Stylosanthes guianensis	Rlb 1	756
Stylosanthes guianensis	CPI10983	44 76 82 103 105
Stylosanthes guianensis	CPI11497	82 159 328 530 756 1552 1580 1650 1727 2033 2229
Stylosanthes guianensis	CPI11849	82 159 328 530 756 1408 1552 1580 1650 1727 2033 2168 2248
Stylosanthes guianensis	CPI17210A	82 328 530 756 1408 1650 2168 2229
Stylosanthes guianensis	CPI17210B	756
Stylosanthes guianensis	CPI18750A	756
Stylosanthes guianensis	CPI18750B	82 159 756 1650 2033 2168 2229
Stylosanthes guianensis	CPI33434A	1650
Stylosanthes guianensis	CPI33437	44 82 103 159 328 530 756 1408 1552 1580 1650 1727 2033 2229
Stylosanthes guianensis	CPI33479	82 159 328 756 1408 1650 1727 2033 2168 2229 2248
Stylosanthes guianensis	CPI33501A	82 1552 2033
Stylosanthes guianensis	CPI33706	756
Stylosanthes guianensis	CPI33978	82 103 159 328 530 756 1552 1650 1675 1984 2033 2168 2229 2248
Stylosanthes guianensis	CPI34000	82 103 328 756 2033 2168 2229

Host Legume	Accession No./ Cultivar	CB Strain Accession Number
Stylosanthes guianensis	CPI34440	756
Stylosanthes guianensis	CPI34592A	82 159 328 1580 1650 1727 2033 2229 2248
Stylosanthes guianensis	CPI34659	756
Stylosanthes guianensis	CPI34660A	1552 2126
Stylosanthes guianensis	CPI34661	82 756 1408 1650 2033 2168 2229 2248
Stylosanthes guianensis	CPI34662	756
Stylosanthes guianensis	CPI34663	44 82 159 328 530 756 1408 1552 1580 1650 1727
Stylosanthes guianensis	CPI34749	82 159 328 1552 1650 1727 2033 2229 2248
Stylosanthes guianensis	CPI34906	82 159 1552 1727 2229 2248 2534 2797 2803 2844
Stylosanthes guianensis	CPI34908	82 1650 1727 2033 2229 2248
Stylosanthes guianensis	CPI34909	2033
Stylosanthes guianensis	CPI34910	1650 2033 2229 2248
Stylosanthes guianensis	CPI34911	82 328 530 756 1408 1650 1727 2033 2168 2229 2248
Stylosanthes guianensis	CPI34915	530
Stylosanthes guianensis	CPI34920	82 159 328 1650 2033 2229 2248
Stylosanthes guianensis	CPI34921	82 328 756 1408 1552 2168 2229 2248
Stylosanthes guianensis	CPI34922B	82 103 159 328 530 756 1408 1650 1727 2033 2168 2229
Stylosanthes guianensis	CPI34923A	82
Stylosanthes guianensis	CPI34927	82 2229
Stylosanthes guianensis	CPI34928C	82 1552
Stylosanthes guianensis	CPI35795	328 1552 2229
Stylosanthes guianensis	CPI35820B	82 159 328 1552 1580 1650 2033 2229 2248
Stylosanthes guianensis	CPI36257	82
Stylosanthes guianensis	CPI37204A	44 82 103 159 328 530 756 1408 1552 1580 1727 2033 2168 2229
Stylosanthes guianensis	CPI37204B	756
Stylosanthes guianensis	CPI37205	82 103 159 756 1408 1650 2033 2168 2229 2248
Stylosanthes guianensis	CPI37205B	756
Stylosanthes guianensis	CPI37512	82 328 756 1408 1552 1650 2168 2229 2248
Stylosanthes guianensis	CPI38222	82 159 328 530 756 1408 1580 1650 1727 2033 2168 2229 2248
Stylosanthes guianensis	CPI38349	82 756 1552 2248
Stylosanthes guianensis	CPI38357	82 159 328 530 756 1408 1650 1727 2168 2229
Stylosanthes guianensis	CPI38361	756
Stylosanthes guianensis	CPI38369	756
Stylosanthes guianensis	CPI38385	756
Stylosanthes guianensis	CPI38391	756
Stylosanthes guianensis	CPI38606	756
Stylosanthes guianensis	CPI38640	756 1650 2229
Stylosanthes guianensis	CPI39111D	756
Stylosanthes guianensis	CPI39114	328 1650 2033 2229
Stylosanthes guianensis	CPI39121	756
Stylosanthes guianensis	CPI39122	756

Host Legume	Accession No./ Cultivar	CB Strain Accession Number
Stylosanthes guianensis	CPI40252A	1580 1650 2229 2248
Stylosanthes guianensis	CPI40256	44 82 159 328 530 756 1408 1650 2033 2126 2248
Stylosanthes guianensis	CPI40257	2229 2464 2797
Stylosanthes guianensis	CPI40258	82
Stylosanthes guianensis	CPI40261	82 328 1650 2229
Stylosanthes guianensis	CPI40263	756
Stylosanthes guianensis	CPI40293	2229
Stylosanthes guianensis	CPI40294	756
Stylosanthes guianensis	CPI40297	756
Stylosanthes guianensis	CPI40567	756
Stylosanthes guianensis	CPI40567A	756
Stylosanthes guianensis	CPI40567B	756
Stylosanthes guianensis	CPI40568A	756
Stylosanthes guianensis	CPI40568B(1)	756
Stylosanthes guianensis	CPI40568B(2)	756
Stylosanthes guianensis	CPI40568C	756
Stylosanthes guianensis	CPI40568C(1)d	756
Stylosanthes guianensis	CPI40568C(1)p	756
Stylosanthes guianensis	CPI40568C(d)	756
Stylosanthes guianensis	CPI40568C(p)	756
Stylosanthes guianensis	CPI41209A	82 103 159 756 1408 1650 2033 2126 2168 2229 2248
Stylosanthes guianensis	CPI41209B	756
Stylosanthes guianensis	CPI41209B(2)	756
Stylosanthes guianensis	CPI41209B(3)	756
Stylosanthes guianensis	CPI41209C	756
Stylosanthes guianensis	CPI41218	82 103 159 328 530 756 1408 1650 1727 2033 2168 2229 2248
Stylosanthes guianensis	CPI43205B	756
Stylosanthes guianensis	CPI43206	82 328 2248
Stylosanthes guianensis	CPI43831	756
Stylosanthes guianensis	CPI45173A	756
Stylosanthes guianensis	CPI45173B	756
Stylosanthes guianensis	CPI46585	756
Stylosanthes guianensis	CPI46589A	756
Stylosanthes guianensis	CPI46589B	756
Stylosanthes guianensis	CPI46589C	756
Stylosanthes guianensis	CPI46590	756
Stylosanthes guianensis	CPI47396	756
Stylosanthes guianensis	CPI79637	2229 2464 3055
Stylosanthes guianensis	CPI79639	2229 2464 2797 3055
Stylosanthes guianensis	CPI8231	756
Stylosanthes guianensis	CQ27105A	756
Stylosanthes guianensis	CQ33034A	756
Stylosanthes guianensis	Q10291	44 82 103 159 328 530 756 1408 1650 1727 2033 2126 2168 2229 2248
Stylosanthes guianensis	Q10293	82 530 756 1408 1650 2126 2168 2229 2248
Stylosanthes guianensis	Q418	44 82 756
Stylosanthes guianensis	Q8231	756
Stylosanthes guianensis	Q8231A	756
Stylosanthes guianensis	Q8231B	756

Host Legume	Accession No./ Cultivar	CB Strain Accession Number
Stylosanthes guianensis	Q8255	44 82 103 159 328 530 756 1408 1552 1580 1727 2033 2126 2152 2168 2229 2248
Stylosanthes guianensis	Q8442	756
Stylosanthes hamata		3557 3558
Stylosanthes hamata	Amiga	82 103 328 530 1408 1650 1675 1984 2033 2126 2229 2248
Stylosanthes hamata	Cloncurry 4	2126 3048 3050 3053 3289 3290 3291 3292 3293 3295 3296
Stylosanthes hamata	Verano	82 103 159 328 756 1272 1408 1552 1650 1675 1984 2033 2126 2134 2135 2136 2152 2229 2248 2837 2839 2841 3043 3048 3050 3053 3055 3289 3290 3291 3292 3293 3294 3295 3296 3481
Stylosanthes hamata	CPI109305	2126 3053
Stylosanthes hamata	CPI109307	2126 3053
Stylosanthes hamata	CPI109308	2126 3053
Stylosanthes hamata	CPI109310	2126 3053
Stylosanthes hamata	CPI109312	3053 3295
Stylosanthes hamata	CPI109314	3053 3295
Stylosanthes hamata	CPI109315	2126 3053
Stylosanthes hamata	CPI109316	2126 3053 3295
Stylosanthes hamata	CPI109320	2126 3048 3053 3289 3290 3292
Stylosanthes hamata	CPI109325	2126 3048 3289 3290 3292
Stylosanthes hamata	CPI109326	82 159 1650 2126 3048 3053 3289 3290 3292 3293 3294
Stylosanthes hamata	CPI109331	2126 3048 3050 3053 3289 3290 3291 3292 3293 3296
Stylosanthes hamata	CPI109332	2126 3048 3050 3053 3289 3290 3291 3292 3293
Stylosanthes hamata	CPI109344	82 159 756 1408 1650 2126 3048 3050 3053 3289 3290 3291 3292 3293 3294
Stylosanthes hamata	CPI109346	2126 3053
Stylosanthes hamata	CPI109347	2126 3048 3053 3289 3290 3291 3292 3293
Stylosanthes hamata	CPI109349	2126 3048 3050 3053 3289 3290 3291 3292 3293 3295
Stylosanthes hamata	CPI109350	2126 3048 3050 3053 3289 3290 3291 3292 3293 3295 3296
Stylosanthes hamata	CPI110024	82 756 1650 2126 3050 3291 3292 3293
Stylosanthes hamata	CPI110025	1650 2126 3048 3050 3290 3292 3293
Stylosanthes hamata	CPI110026	1650 3048 3290
Stylosanthes hamata	CPI110027	82 756 1650 2126 3048 3050 3053 3290 3291 3292 3293
Stylosanthes hamata	CPI110028	2126 3048 3050 3053 3290 3293
Stylosanthes hamata	CPI110029	82 159 756 1650 2126 3048 3050 3053 3289 3290 3291 3292 3293 3294
Stylosanthes hamata	CPI110030	82 1650 3048 3050 3290 3291 3292 3293
Stylosanthes hamata	CPI110033	2126 3048 3053 3289 3290 3292
Stylosanthes hamata	CPI110035	2126 3048 3053 3289 3290 3292
Stylosanthes hamata	CPI110036	2126 3048 3053 3289 3290 3292 3293
Stylosanthes hamata	CPI110037	82 159 1650 2126 3048 3053 3289 3290 3291 3292 3293
Stylosanthes hamata	CPI110038	2126 3053 3289 3290 3292

Host Legume	Accession No./ Cultivar	CB Strain Accession Number
Stylosanthes hamata	CPI110039	1650 3048 3289 3293
Stylosanthes hamata	CPI110040	159 1650 2126 3048 3289 3293
Stylosanthes hamata	CPI110041	159 2126 3048 3050 3053 3289 3290 3291 3292 3293
Stylosanthes hamata	CPI110042	1650 2126 3048 3050 3053 3289 3290 3291 3292 3293 3295 3296
Stylosanthes hamata	CPI110043	82 159 756 1650 2126 3048 3050 3053 3289 3290 3291 3292 3293 3294
Stylosanthes hamata	CPI110044	2126 3048 3050 3053 3289 3290 3291 3292 3293 3295 3296
Stylosanthes hamata	CPI110045	2126 3048 3050 3053 3289 3290 3291 3292 3293 3295 3296
Stylosanthes hamata	CPI110046	2126 3048 3050 3053 3289 3290 3291 3292
Stylosanthes hamata	CPI110048	2126 3048 3050 3053 3289 3290 3292 3293
Stylosanthes hamata	CPI110049	2126 3048 3050 3053 3289 3290 3292
Stylosanthes hamata	CPI110050	2126 3048 3050 3053 3289 3290 3292 3293 3295 3296
Stylosanthes hamata	CPI110051	2126 3048 3053 3289 3290 3292
Stylosanthes hamata	CPI110057	1650 2126 3048 3050 3053 3289 3290 3291 3292 3293 3295 3296
Stylosanthes hamata	CPI110066	2126 3053
Stylosanthes hamata	CPI110067	2126 3053
Stylosanthes hamata	CPI110068	2126 3048 3050 3053 3289 3290 3291 3292 3293 3296
Stylosanthes hamata	CPI110069	2126 3048 3050 3053 3289 3290 3291 3292 3293
Stylosanthes hamata	CPI110070	3048 3050 3053 3289 3290 3292 3293 3296
Stylosanthes hamata	CPI110077	2126 3053
Stylosanthes hamata	CPI110083	2126 3053
Stylosanthes hamata	CPI110084	2126 3053
Stylosanthes hamata	CPI110087	2126 3053
Stylosanthes hamata	CPI110090	2126 3053
Stylosanthes hamata	CPI110095	1650 2126 3048 3053 3289 3290 3292 3293 3294 3295
Stylosanthes hamata	CPI110098	2126 3048 3050 3053 3289 3290 3291 3292 3293
Stylosanthes hamata	CPI110099	2126 3053
Stylosanthes hamata	CPI110104	2126 3048 3053 3289 3290 3291 3292
Stylosanthes hamata	CPI110108	2126 3053
Stylosanthes hamata	CPI110109	82 159 756 1408 1650 2126 3048 3050 3053 3289 3290 3291 3292 3293 3294
Stylosanthes hamata	CPI110110	2126 3053
Stylosanthes hamata	CPI110114	2126
Stylosanthes hamata	CPI110116	82 159 756 1408 1650 2126 3048 3293 3295 3296
Stylosanthes hamata	CPI110119	2126 3053
Stylosanthes hamata	CPI110125	2126 3053
Stylosanthes hamata	CPI110134	82 159 756 1408 1650 2126 3048 3050 3289 3290 3291 3292 3293 3294
Stylosanthes hamata	CPI110135	82 159 756 1650 2126 3048 3050 3053 3289 3290 3291 3292 3293 3294
Stylosanthes hamata	CPI110138	82 159 756 1408 1650 2126 3048 3050 3053 3289 3290 3291 3292 3293 3294 3295

Host Legume	Accession No./ Cultivar	CB Strain Accession Number
Stylosanthes hamata	CPI110162	2126 3048 3050 3053 3289 3290 3292 3293
Stylosanthes hamata	CPI110166	2126 3048 3050 3053 3289 3290 3292 3295 3296
Stylosanthes hamata	CPI110168	2126 3048 3289 3290 3292
Stylosanthes hamata	CPI110171	2126 3053
Stylosanthes hamata	CPI110173	2126 3053
Stylosanthes hamata	CPI110174	2126 3053
Stylosanthes hamata	CPI110176	2126 3053
Stylosanthes hamata	CPI110179	2126 3053
Stylosanthes hamata	CPI110181	2126 3053
Stylosanthes hamata	CPI110185	2126 3053
Stylosanthes hamata	CPI110186	2126 3053
Stylosanthes hamata	CPI110190	2126 3053
Stylosanthes hamata	CPI110205	2126 3048 3053 3289 3290 3292 3295
Stylosanthes hamata	CPI110206	2126 3048 3050 3053 3289 3290 3291 3292 3293
Stylosanthes hamata	CPI110207	2126 3053
Stylosanthes hamata	CPI110209	2126 3048 3050 3289 3290 3292 3295 3296
Stylosanthes hamata	CPI110311	2126 3053
Stylosanthes hamata	CPI110316	3048 3289 3290 3293 3294
Stylosanthes hamata	CPI110317	1650 2126 3048 3050 3053 3289 3290 3291 3292 3293 3295 3296
Stylosanthes hamata	CPI33205	2126 2152 3050 3053
Stylosanthes hamata	CPI33231	2126 2152 2841 3050 3053
Stylosanthes hamata	CPI36046	2126 2152 2841 3050 3053
Stylosanthes hamata	CPI37037	2126 2152 2841 3050 3053
Stylosanthes hamata	CPI37038	2126 2152 2841 3053
Stylosanthes hamata	CPI38843	2126 2152 2841
Stylosanthes hamata	CPI40264	2841
Stylosanthes hamata	CPI40264A	2126 2144 2152 2841 3050 3053 3480 3481
Stylosanthes hamata	CPI40268	2126 2152 2841
Stylosanthes hamata	CPI40275B	2126 2144 2152 2841
Stylosanthes hamata	CPI46587	44 82 103 159 328 756 1272 1408 1552 1650 1984 2033 2126 2168 2229 3050 3053 3294
Stylosanthes hamata	CPI46588	44 82 103 159 328 530 756 1272 1408 1552 1650 1675 1727 2033 2126 2168 2229 2248
Stylosanthes hamata	CPI49080	2126 2152 2841 3050 3053 3294
Stylosanthes hamata	CPI50997	2126 3050 3053
Stylosanthes hamata	CPI50998	2126 3050 3053
Stylosanthes hamata	CPI51391	2126 3050 3053
Stylosanthes hamata	CPI55802	103 159 328 530 756 1408 1650 2126 2168 2248
Stylosanthes hamata	CPI55804	328 530 756 1408 1650 2033 2229 2248
Stylosanthes hamata	CPI55809	103 159 328 530 756 1408 1552 1650 1727 2033 2168 2229 2248
Stylosanthes hamata	CPI55812	328 1984 2126
Stylosanthes hamata	CPI55813	82 103 159 328 530 756 1408 1650 1675 2033 2126 2229 2248
Stylosanthes hamata	CPI55820	1984 2126 2152
Stylosanthes hamata	CPI55821	82 103 159 328 756 1408 1650 1675 1984 2033 2126 2144 2229 2248 3048 3050

Host Legume	Accession No./ Cultivar	CB Strain Accession Number
		3053 3289 3290 3291 3292 3293 3294 3296
Stylosanthes hamata	CPI55822a	82 159 756 1650 2126 3048 3050 3053 3289 3290 3291 3292 3293 3294 3296
Stylosanthes hamata	CPI55822b	159 756 1650 2126 3050 3289 3290 3291 3292 3293
Stylosanthes hamata	CPI55822c	82 159 756 1408 1650 2126 3048 3050 3053 3289 3290 3291 3292 3293 3294
Stylosanthes hamata	CPI55822d	82 159 756 1408 1650 2126 3048 3050 3053 3289 3290 3291 3292 3293 3294
Stylosanthes hamata	CPI55822e	159 756 1408 1650 2126 3048 3053 3289 3290 3292 3293
Stylosanthes hamata	CPI55822f	82 159 756 1408 1650 2126 3048 3050 3053 3289 3290 3291 3292 3293 3294
Stylosanthes hamata	CPI55822g	82 159 756 1408 1650 2126 3048 3050 3053 3289 3290 3291 3292 3293 3294
Stylosanthes hamata	CPI55823	328 1984 2126
Stylosanthes hamata	CPI55824	1984 2126
Stylosanthes hamata	CPI55826	2126 3050 3053
Stylosanthes hamata	CPI55827	2126
Stylosanthes hamata	CPI55828	328 1675 1984 2126 2144 2152 2168
Stylosanthes hamata	CPI55830	1984
Stylosanthes hamata	CPI55831	103 1650 1984 2033 2152 2229 2248
Stylosanthes hamata	CPI55871	82 159 328 756 1408 1650 1984 2033 2126 2168 2248
Stylosanthes hamata	CPI56211	2126 3050 3053
Stylosanthes hamata	CPI57248	2126 2152
Stylosanthes hamata	CPI61204	2126 3053
Stylosanthes hamata	CPI61623A	2126
Stylosanthes hamata	CPI61669	2152
Stylosanthes hamata	CPI61670	2126 3050 3053
Stylosanthes hamata	CPI61671	328
Stylosanthes hamata	CPI61671A	2126 3050 3053
Stylosanthes hamata	CPI61672B	82 103 328 756 1650 1984 2033 2126 2152 2168 2229 2248
Stylosanthes hamata	CPI61672Ba	2126 3050 3053
Stylosanthes hamata	CPI61672Bb	82 756 1408 2126 3050 3053
Stylosanthes hamata	CPI62160	2126 3050 3053
Stylosanthes hamata	CPI62162	2126 3050 3053
Stylosanthes hamata	CPI65363	3050 3053
Stylosanthes hamata	CPI65364	2126 3050
Stylosanthes hamata	CPI65365	2126 3048 3050 3053 3289 3290 3291 3292 3293 3296
Stylosanthes hamata	CPI65368	2126 3050 3053 3289
Stylosanthes hamata	CPI65371	2126 3289
Stylosanthes hamata	CPI65962	1650 2126 3050 3053 3289
Stylosanthes hamata	CPI65965	82 159 756 1650 2126 3048 3050 3053 3289 3290 3292 3293 3294
Stylosanthes hamata	CPI68837	2126 3048 3050 3053 3289 3290 3292
Stylosanthes hamata	CPI68838	2126 3048 3053 3289 3290 3292
Stylosanthes hamata	CPI68840	2126 3048 3050 3053 3289 3290 3291 3292 3293 3295 3296
Stylosanthes hamata	CPI70360	2126 3050 3053
Stylosanthes hamata	CPI70366	2126 3050 3053

Host Legume	Accession No./ Cultivar	CB Strain Accession Number
Stylosanthes hamata	CPI70370	2126 3050 3053
Stylosanthes hamata	CPI70371	2126 3050 3053
Stylosanthes hamata	CPI70372	3053
Stylosanthes hamata	CPI70374	2126 3050 3053
Stylosanthes hamata	CPI70522	756 2126 3050 3289 3294
Stylosanthes hamata	CPI70523	2126 3053
Stylosanthes hamata	CPI70524	2126 3050 3053
Stylosanthes hamata	CPI70525	2126 3053
Stylosanthes hamata	CPI70529	1408 1650 2126 3050 3053 3289 3294
Stylosanthes hamata	CPI72850	2126 3050 3053
Stylosanthes hamata	CPI72852	2126 3050 3053
Stylosanthes hamata	CPI72854	2126 3050 3053
Stylosanthes hamata	CPI72859	2126 3053
Stylosanthes hamata	CPI73484	2126 3050 3053
Stylosanthes hamata	CPI73486	2126 3050 3053
Stylosanthes hamata	CPI73487	3050 3053
Stylosanthes hamata	CPI73488	2126 3053
Stylosanthes hamata	CPI73491	2126 3050 3053
Stylosanthes hamata	CPI73497	3050 3053 3289
Stylosanthes hamata	CPI73498	2126 3053
Stylosanthes hamata	CPI73499	2126 3050 3053
Stylosanthes hamata	CPI73501	2126 3050 3053
Stylosanthes hamata	CPI73505	2126 3050 3053
Stylosanthes hamata	CPI73506	2126 3050 3053
Stylosanthes hamata	CPI73507	2126 3050 3053
Stylosanthes hamata	CPI73509	2126 3050 3053
Stylosanthes hamata	CPI73511	2126 3050 3053
Stylosanthes hamata	CPI73513	2126 3050
Stylosanthes hamata	CPI73514	2126 3050 3053
Stylosanthes hamata	CPI73515	2126 3050 3053
Stylosanthes hamata	CPI73517	2126 3050 3053
Stylosanthes hamata	CPI73523	2126 3050 3053
Stylosanthes hamata	CPI73719	2126 3050 3053
Stylosanthes hamata	CPI75162	82 159 530 756 1650 2126 3050 3053 3289 3291 3294
Stylosanthes hamata	CPI75163	82 1650 2126 3053 3289 3291
Stylosanthes hamata	CPI75164	82 756 1650 2126 3050 3053 3289 3291 3294
Stylosanthes hamata	CPI75165	2126 3050 3053 3289
Stylosanthes hamata	CPI75166	82 530 756 1650 2126 3050 3053 3289 3291
Stylosanthes hamata	CPI75167	2126 3050 3289
Stylosanthes hamata	CPI75168	2126 3050 3053 3289 3291
Stylosanthes hamata	CPI75169	2126 3289
Stylosanthes hamata	CPI75171	2126 3050 3053 3289
Stylosanthes hamata	CPI75172	2126 3050 3053 3289
Stylosanthes hamata	CPI75173	2126 3050 3053
Stylosanthes hamata	CPI75174	2126 3050 3053
Stylosanthes hamata	CPI75175	2126 3050 3053
Stylosanthes hamata	CPI94130	2126 3053
Stylosanthes hamata	CPI94443	2126 3053
Stylosanthes hamata	CPI94444	3289 3290 3292
Stylosanthes hamata	CPI99670	2126 3053

Host Legume	Accession No./ Cultivar	CB Strain Accession Number							
Stylosanthes hamata	CPI99675	2126	3053						
Stylosanthes humilis		76	82	103	105	121	273	319	328
		516	530	756					
Stylosanthes humilis	Black seed	103	159	756	1408	1580	1782		
Stylosanthes humilis	Commercial	103	159	328	530	756	1408	1727	2033
Stylosanthes humilis	Gordon	103	159	328	756	1408	1580	1675	1689
		1727	2033						
Stylosanthes humilis	Lawson	103	159	328	530	756	1408	1650	1727
		1984	2033	2168	2229	2248			
Stylosanthes humilis	Paterson	103	159	328	756				
Stylosanthes humilis	CPI29252	103	328	530	756	2248			
Stylosanthes humilis	CPI33172	103	756	1408					
Stylosanthes humilis	CPI33502A	103	328	530	756	1408	1650	2033	2229
		2248							
Stylosanthes humilis	CPI33502B	756							
Stylosanthes humilis	CPI33503	756							
Stylosanthes humilis	CPI33828	756							
Stylosanthes humilis	CPI33829	756							
Stylosanthes humilis	CPI33830	756							
Stylosanthes humilis	CPI33979	103	328	756					
Stylosanthes humilis	CPI34001	756							
Stylosanthes humilis	CPI34116	756							
Stylosanthes humilis	CPI34610	756							
Stylosanthes humilis	CPI34752A(1)	756							
Stylosanthes humilis	CPI34752A(2)	756							
Stylosanthes humilis	CPI34905A	756							
Stylosanthes humilis	CPI37036	103	159	328	756	1408	1650	2168	2229
Stylosanthes humilis	CPI37206	756							
Stylosanthes humilis	CPI38753B	756							
Stylosanthes humilis	CPI39109B	756							
Stylosanthes humilis	CPI40265	82	103	756	1408				
Stylosanthes humilis	CPI40266	756							
Stylosanthes humilis	CPI40267B	756							
Stylosanthes humilis	CPI40269	756							
Stylosanthes humilis	CPI40269A	756							
Stylosanthes humilis	CPI40269B	756							
Stylosanthes humilis	CPI40269D	756							
Stylosanthes humilis	CPI40269E	756							
Stylosanthes humilis	CPI40270	756							
Stylosanthes humilis	CPI40270A(1)	756							
Stylosanthes humilis	CPI40270B	756							
Stylosanthes humilis	CPI40271A(1)	756							
Stylosanthes humilis	CPI40272A	756							
Stylosanthes humilis	CPI40272B	756							
Stylosanthes humilis	CPI40272C	756							
Stylosanthes humilis	CPI40272D	756							
Stylosanthes humilis	CPI40273B	756							
Stylosanthes humilis	CPI40274B	756							
Stylosanthes humilis	CPI40275A	756							
Stylosanthes humilis	CPI40276B	756							
Stylosanthes humilis	CPI40276C	756							
Stylosanthes humilis	CPI40276D	756							
Stylosanthes humilis	CPI40276E	756							

Host Legume	Accession No./ Cultivar	CB Strain Accession Number
Stylosanthes humilis	CPI40277	756
Stylosanthes humilis	CPI40278	756
Stylosanthes humilis	CPI40283B	756
Stylosanthes humilis	CPI47477	756
Stylosanthes humilis	CPI57246	103 159 328 1650 2229 2248
Stylosanthes humilis	CPI61667	103 328 1408 2033 2168 2229
Stylosanthes humilis	CPI61668	103 159 328 756 1650 2033 2168 2229 2248
Stylosanthes humilis	CPI61672A	159 756 1650 2168 2229 2248
Stylosanthes humilis	CPI61674	103 756 1650 1984 2033 2229 2248 3291
Stylosanthes humilis	CPI68841	756 3291 3294
Stylosanthes humilis	CQ1271	82 103 159 328 530 756 1408 1675 2033
Stylosanthes humilis	CQ1272	82 103 159 328 530 756 1408 1650 2033 2168 2229
Stylosanthes leiocarpa	CPI11498	76
Stylosanthes leiocarpa	CPI39117	756
Stylosanthes macrocephala	CPI105458	3055 3559 3560 3561 3562 3564 3565 3566 3567
Stylosanthes macrocephala	CPI105462	3055 3561 3564 3566 3567
Stylosanthes macrocephala	CPI105463	3055 3482 3559 3561 3562 3564 3565 3566 3567
Stylosanthes macrocephala	CPI105465	3055 3482 3559 3560 3561 3564 3566 3567
Stylosanthes macrocephala	CPI105481	2898 3048 3049 3050 3055 3481 3482 3559 3560 3561 3562 3564 3565 3566 3567
Stylosanthes macrocephala	CPI105494	2898 3048 3049
Stylosanthes macrocephala	CPI105497	3055 3561 3562 3564 3566 3567
Stylosanthes macrocephala	CPI105503	3055 3561 3562 3564 3566 3567
Stylosanthes macrocephala	CPI106880	3055 3482 3559 3560 3561 3562 3564 3566 3567
Stylosanthes macrocephala	CPI106884	3055 3482 3559 3561 3562 3564 3565 3566 3567
Stylosanthes macrocephala	CPI54835	3481 3563
Stylosanthes macrocephala	CPI92451	3055 3482 3559 3560 3561 3562 3564 3565 3566 3567
Stylosanthes macrocephala	CPI92860	3048 3055 3482 3559 3562 3564 3566 3567
Stylosanthes macrocephala	CPI92920	3055 3482 3559 3561 3562 3564 3566 3567
Stylosanthes macrocephala	CPI93037	3055 3559 3561 3562 3564 3566 3567
Stylosanthes macrocephala	CPI93101	3048 3055 3482 3559 3560 3561 3562 3564 3566 3567
Stylosanthes macrocephala	CPI94404	2898 3048 3049 3050 3055 3154 3241 3306 3307 3308 3482 3561 3562 3564 3566 3567
Stylosanthes macrocephala	CPI95179	3055 3559 3561 3562 3564 3566 3567
Stylosanthes montevidensis	CPI11494	756
Stylosanthes montevidensis	CPI11496	82 756 2168
Stylosanthes montevidensis	CPI11847	756
Stylosanthes montevidensis	CPI39112	756
Stylosanthes scabra	Fitzroy	82 103 328 530 756 1272 1408 1552 1650 1675 2126 2152 2229 2248 3050 3294
Stylosanthes scabra	Seca	82 103 159 328 530 756 1272 1408 1650 2126 2168 2229 3050 3289 3291 3294
Stylosanthes scabra	CPI110359	2126 3053
Stylosanthes scabra	CPI34750A	756

Host Legume	Accession No./ Cultivar	CB Strain Accession Number
Stylosanthes scabra	CPI34750B	756
Stylosanthes scabra	CPI34907	756
Stylosanthes scabra	CPI34925	756
Stylosanthes scabra	CPI34929	756
Stylosanthes scabra	CPI36260A	756
Stylosanthes scabra	CPI39113	756
Stylosanthes scabra	CPI40284	756
Stylosanthes scabra	CPI40285A	756
Stylosanthes scabra	CPI40285B	756
Stylosanthes scabra	CPI40285C	756
Stylosanthes scabra	CPI40286A	756
Stylosanthes scabra	CPI40287	756
Stylosanthes scabra	CPI40288	756
Stylosanthes scabra	CPI40289	756
Stylosanthes scabra	CPI40290A	756
Stylosanthes scabra	CPI40290B	756
Stylosanthes scabra	CPI40291	756
Stylosanthes scabra	CPI40301	82 103 159 328 530 756 1408 1552 1650 1675 2033 2126 2152 2168 2229
Stylosanthes scabra	CPI49306	82 103 328 530 756 1408 1650 2229 2248
Stylosanthes scabra	CPI49831	756
Stylosanthes scabra	CPI49833	756
Stylosanthes scabra	CPI49834	756
Stylosanthes scabra	CPI55799	756 1408 1650 2126 3050 3291 3294
Stylosanthes scabra	CPI55803	756 2126 3050 3294
Stylosanthes scabra	CPI55805	756 1408 1650 2126 3294
Stylosanthes scabra	CPI55814	82 159 530 756 1408 1650 2126 3050 3053 3289 3291 3294
Stylosanthes scabra	CPI55817	82 159 530 756 1408 1650 2126 3050 3053
Stylosanthes scabra	CPI55818	82 530 756 1408 1650 2126 3050 3289 3291 3294
Stylosanthes scabra	CPI55856	82 159 530 756 1408 1650 2126 3050 3053 3289 3291 3294
Stylosanthes scabra	CPI55857	159 530 756 1408 1650 2126 3050 3294
Stylosanthes scabra	CPI55858	82 159 530 756 1408 1650 2126 3050 3053 3289 3291 3294
Stylosanthes scabra	CPI55860	530 756 1408 1650 2126 3050 3289 3294
Stylosanthes scabra	CPI55866	530 756 1408 1650 2126 3050 3289 3294
Stylosanthes scabra	CPI55867	82 159 530 756 1408 1650 2126 3050 3053 3289 3294
Stylosanthes scabra	CPI55868	82 159 530 756 985 1015 1024 1243 1408 1650 2126 3036 3050 3289 3294
Stylosanthes scabra	CPI55870	159 530 756 1408 1650 2126 3050 3053 3294
Stylosanthes scabra	CPI55872	82 530 756 1408 1650 2126 3050 3289 3294
Stylosanthes scabra	CPI55875	82 159 530 756 1408 1650 2126 3050 3053 3291 3294
Stylosanthes scabra	Q8240	756
Stylosanthes seabrana		3451 3452 3454 3456 3483 3484 3485 3486 3487 3488 3489 3490 3491 3492 3493 3494

Host Legume	Accession No./ Cultivar	CB Strain Accession Number
		3495 3496 3497 3546
Stylosanthes seabrana	Primar	2126 3053
Stylosanthes seabrana	Unica	2126 3053 3481
Stylosanthes seabrana	ATF2328	82 159 1650 3048 3289 3290 3294
Stylosanthes seabrana	ATF2329	1650 3048 3294
Stylosanthes seabrana	ATF2330	82 159 1650 3048 3289 3290 3292 3294
Stylosanthes seabrana	ATF2331	82 159 1650 3048 3053 3289 3290 3292
		3294 3480
Stylosanthes seabrana	ATF2332	82 159 1650 3048 3289 3290 3294
Stylosanthes seabrana	ATF2333	82 159 1650 3048 3289 3290 3294
Stylosanthes seabrana	ATF2334	82 159 1650 3048 3289 3294
Stylosanthes seabrana	ATF2335	82 159 1650 3048 3289 3294
Stylosanthes seabrana	ATF2336	82 159 1650 3048 3053 3289 3290 3292
		3294 3480
Stylosanthes seabrana	ATF2337	82 1650 3048 3289 3294
Stylosanthes seabrana	ATF2338	1650 3048 3289 3290 3292 3294
Stylosanthes seabrana	ATF2339	82 159 1650 3048 3289 3290 3294
Stylosanthes seabrana	ATF2341	82 159 1650 3048 3053 3289 3290 3294
Stylosanthes seabrana	ATF2342	82 159 1650 3048 3289 3290 3292 3294
Stylosanthes seabrana	ATF2343	82 159 1650 3048 3290 3292 3294
Stylosanthes seabrana	ATF2344	82 159 1650 3048 3289 3294
Stylosanthes seabrana	ATF2345	82 159 1650 3048 3289 3294
Stylosanthes seabrana	ATF2346	82 159 1650 3048 3289 3290 3292 3294
Stylosanthes seabrana	ATF2347	82 159 1650 3048 3289 3290 3292 3294
Stylosanthes seabrana	ATF2348	82 159 1650 3048 3289 3290 3292 3294
Stylosanthes seabrana	ATF2349	159 1650 3048 3289 3294
Stylosanthes seabrana	ATF2350	3053 3480
Stylosanthes seabrana	ATF2351	82 159 1650 3048 3289 3294
Stylosanthes seabrana	ATF2352	82 1650 3294
Stylosanthes seabrana	ATF2353	82 159 1650 3048 3289 3290 3292 3294
Stylosanthes seabrana	ATF2354	82 159 1650 3048 3289 3294
Stylosanthes seabrana	ATF2355	82 159 1650 3048 3289 3290 3294
Stylosanthes seabrana	ATF2356	82 159 1650 3048 3289 3294
Stylosanthes seabrana	ATF2357	159 1650 3048 3289 3294
Stylosanthes seabrana	ATF2516	3053 3480 3481
Stylosanthes seabrana	ATF2517	3053 3480
Stylosanthes seabrana	ATF2518	3480
Stylosanthes seabrana	ATF2519	3053 3480 3481
Stylosanthes seabrana	ATF2520	3053 3480 3481
Stylosanthes seabrana	ATF2521	82 1650 3048 3294
Stylosanthes seabrana	ATF2522	3480
Stylosanthes seabrana	ATF2523	3053 3480 3481
Stylosanthes seabrana	ATF2530	3053 3480 3481
Stylosanthes seabrana	ATF2531	3480
Stylosanthes seabrana	ATF2533	3053 3480 3481
Stylosanthes seabrana	ATF2534	3053 3480
Stylosanthes seabrana	ATF2535	3053 3480 3481
Stylosanthes seabrana	ATF2536	3053 3480
Stylosanthes seabrana	ATF2537	3053 3480 3481
Stylosanthes seabrana	ATF2539	3053 3480 3481
Stylosanthes seabrana	ATF2539B	82 159 1650 3048 3289 3290 3294
Stylosanthes seabrana	ATF2540	3053 3480 3481
Stylosanthes seabrana	CPI104710	2126 3053

Host Legume	Accession No./ Cultivar	CB Strain Accession Number
Stylosanthes seabrana	CPI105546B	2126 3053
Stylosanthes seabrana	CPI105678	159 1408 1650 2126 3048 3050 3053 3289 3290 3292 3293 3294
Stylosanthes seabrana	CPI110340	2126 3053
Stylosanthes seabrana	CPI110341	2126 3053
Stylosanthes seabrana	CPI110342	3053 3480 3481
Stylosanthes seabrana	CPI110343	2126 3053
Stylosanthes seabrana	CPI110370B	2126 3053
Stylosanthes seabrana	CPI110370C	3480
Stylosanthes seabrana	CPI110372	2126 3053
Stylosanthes seabrana	CPI110373	2126 3053
Stylosanthes seabrana	CPI115993	2126 3053
Stylosanthes seabrana	CPI115994	2126 3053
Stylosanthes seabrana	CPI115995	159 756 1408 2126 3048 3294
Stylosanthes seabrana	CPI92454	3053 3480 3481
Stylosanthes seabrana	CPI92463	3053 3480 3481
Stylosanthes seabrana	CPI92476	159 1650 3048 3289 3294
Stylosanthes subsericea	CPI33940	756
Stylosanthes subsericea	CPI33942	756
Stylosanthes subsericea	CPI33943	44 82 103 159 328 756 1272 1408 1552 1650 1675 1984 2033 2126 2144 2152 2168 2229
Stylosanthes subsericea	CPI37204	756
Stylosanthes subsericea	CPI38604A	756
Stylosanthes subsericea	CPI38604B	756
Stylosanthes subsericea	CPI38605	44 82 103 159 328 530 756 1408 1552 1650 1675 1984 2033 2126 2144 2152 2168 2229 2248
Stylosanthes subsericea	CPI38608	756
Stylosanthes subsericea	CPI38609	756
Stylosanthes subsericea	CPI38610	756
Stylosanthes subsericea	CPI41214	756
Stylosanthes subsericea	CPI41217	756
Stylosanthes subsericea	CPI46586	756
Stylosanthes subsericea	Q8435A	756
Stylosanthes subsericea	Q8441	756
Stylosanthes sympodialis	CPI65958	82 159 328 530 756 1650 2126 2152 2229 3050 3294
Stylosanthes sympodialis	CPI65959	82 328 530 756 1650 2126 2152 2229
Stylosanthes sympodialis	CPI65960	82 159 756 1408 1650 2126 3048 3050 3053 3289 3291 3293 3294 3295 3296
Stylosanthes sympodialis	CPI65961	82 328 530 756 1650 2126 2152 2229
Stylosanthes sympodialis	CPI67702	82 328 530 756 1650 2126 2152 2229
Stylosanthes sympodialis	CPI67703	82 328 530 756 1650 2126 2229
Stylosanthes sympodialis	CPI67704B	82 328 530 756 1408 1650 2126 2152 2229 3050 3289 3291 3294
Stylosanthes sympodialis	CPI67705	82 328 530 756 1650 2126 2152 2229
Stylosanthes viscosa	CPI33436	756
Stylosanthes viscosa	CPI33831	756
Stylosanthes viscosa	CPI33941	44 103 159 328 530 756 1272 1408 1552 1580 1650 1675 1727 1984 2033 2126 2168 2229
Stylosanthes viscosa	CPI34904	756 1408 1650

Host Legume	Accession No./ Cultivar	CB Strain Accession Number							
Stylosanthes viscosa	CPI38611	756							
Stylosanthes viscosa	CPI40264B	328	530	756	2168				
Stylosanthes viscosa	CPI40296	756							
Stylosanthes viscosa	CPI40300	756							
Stylosanthes viscosa	CPI40302	756							
Stylosanthes viscosa	CPI41212	756							
Stylosanthes viscosa	CPI61675	159	1650						
Tadehage triquetrum	CPI100833	627	2085	3080					
Tadehage triquetrum	CPI100854	627	2085	3080					
Teramnus sp.	CPI40311	756							
Teramnus sp.	CPI40313	756							
Teramnus sp.	CPI40314	756							
Teramnus flexilis	CPI105891	121	756						
Teramnus gilletti	CPI43791	756							
Teramnus labialis	CPI104644	121	756						
Teramnus labialis	CPI105873	121	756						
Teramnus labialis	CPI106309	121	756						
Teramnus labialis	CPI106659	121	756						
Teramnus labialis	CPI108691	121	756						
Teramnus labialis	CPI114124	121	756						
Teramnus labialis	CPI114133	121	756						
Teramnus labialis	CPI114136	121	756						
Teramnus labialis	CPI43792	121							
Teramnus labialis	CPI51602	121							
Teramnus labialis	CPI52786	121	756						
Teramnus labialis	CPI60373	121							
Teramnus labialis	CPI70381	121	756						
Teramnus labialis	CPI77250	121	756						
Teramnus micans	CPI52800	121	756						
Teramnus mollis	CPI104823	121	756						
Teramnus repens	CPI52801	121	756						
Teramnus repens	CPI60375	121	756						
Teramnus repens	CPI81654	121							
Teramnus uncinatus	CPI22620	170	484	756					
Teramnus uncinatus	CPI25937	45	121	453	484	756	915	1003	1057
Teramnus uncinatus	CPI40307	756							
Teramnus uncinatus	CPI40314	121	756						
Teramnus uncinatus	CPI43791	121	756						
Teramnus uncinatus	CPI52788	121	756						
Teramnus volubilis	CPI51385	121	756						
Tipuana tipu		530	756	3461					
Trifolium sp.	CPI18247	714	771	772	773	775			
Trifolium africanum	CPI26612	773	775						
Trifolium alexandrinum		147							
Trifolium alexandrinum	PE343	806	875						
Trifolium ambiguum		3120							
Trifolium baccarinii		2198							
Trifolium baccarinii	CPI25343	758	766	771	772	773	775		
Trifolium baccarinii	CPI25344	714	758	766	771	772	773	774	775
Trifolium burchellianum	CPI22163	526	714	727	758	772	773	788	
Trifolium burchellianum	CPI24132	727	766	772	773				
Trifolium burchellianum	CPI31995	727							
Trifolium cherleri	CPI14549	867	2179						

Host Legume	Accession No./ Cultivar	CB Strain Accession Number
Trifolium cryptopodium	CPI100015	3310 3311 3313 3315
Trifolium decorum	CPI91720	3310 3311 3313 3314 3315 3316
Trifolium fragiferum	Palestine	1
Trifolium fragiferum	Strawberry	876 1444
Trifolium glomeratum		3528
Trifolium hirtum	Kondinin	806 875 2178
Trifolium incarnatum	Dixie	766 806
Trifolium masaiense	CPI25373	771 782 788
Trifolium mattirolianum	CPI37936	3311 3313 3314 3315
Trifolium polystachyum	CPI33176	3310 3311 3313 3314 3315 3316
Trifolium pratense	Kondinin	3 147
Trifolium pratense	Montgomery	806
Trifolium pratense	New Zealand	806 875
Trifolium quartinianum	CPI100017	3310 3311 3313 3314 3315 3316
Trifolium repens	Alumy Creek	2178
Trifolium repens	Grasslands	1 3 147 806 875 1444 2178
Trifolium repens	Irrigation	147 806 2178
Trifolium repens	Ladino	875 1444
Trifolium repens	NZ White	1990
Trifolium repens	Plains Station	875
Trifolium repens	CPI15648	875 2178
Trifolium rueppellianum	CPI20744	773
Trifolium rueppellianum	CPI21155	714
Trifolium rueppellianum	CPI25346	526 758 772 773
Trifolium rueppellianum	CPI25375	758 773
Trifolium rueppellianum	CPI27217	758 772 773
Trifolium semipilosum	ex Beerwah	526 763 788
Trifolium semipilosum	Safari	526 778 782 788 2031 2116 2117
Trifolium semipilosum	CPI21156	526 778 782 788
Trifolium semipilosum	CPI25347	526 763 778 782 788 2031 2032 2116 2117
Trifolium semipilosum	CPI31996	526 778 782 788 2032 2116 2117
Trifolium semipilosum	CPI33182	526 778 782
Trifolium semipilosum	CPI33183	526 772 778 782
Trifolium semipilosum	CPI40617	526 778 782 788
Trifolium semipilosum	K5154	526 778 782 788
Trifolium simense		2288
Trifolium steudneri	CPI17845	714
Trifolium steudneri	CPI25348	714 771 772
Trifolium steudneri	CPI37947	3310 3311 3312 3313 3314 3315 3316
Trifolium subterraneum		2937
Trifolium subterraneum	Bacchus Marsh	806 875 1444
Trifolium subterraneum	Clare	806 875 1444
Trifolium subterraneum	Geraldton	875 2178 2179
Trifolium subterraneum	Woogenellup	806 867 2179
Trifolium tembense	CPI100026	3310 3311 3313 3314 3315 3316
Trifolium tembense	CPI20746	758 771 772 773 775
Trifolium tembense	CPI24978	758 771 772 773 775 806
Trifolium tembense	CPI25349	771 773 775
Trifolium tembense	CPI25376	758 771 772 773 775
Trifolium usambarense	CPI22165	758 771 772 773 775
Trifolium usambarense	CPI25350	758 771 772 773 775
Trifolium usambarense	CPI25377	758 771 772 773 775

Host Legume	Accession No./ Cultivar	CB Strain Accession Number							
Vigna angularis	A2-15	121	284	512	661	756	786	890	985
		1011	1015	1017	1024	1042	1243	1247	1809
Vigna marina		121	159	170	453	756	786	915	
Vigna mungo	Regur	121	170	284	512	756	786	890	985
		1011	1015	1017	1042	1243	1247	1809	
Vigna mungo	CPI18118	756							
Vigna parkeri		3246							
Vigna parkeri	CPI25378	756	985	1011	1015	1024	1057	1243	1717
		2368	3245	3322	3323	3325	3326		
Vigna parkeri	CQ1374	756	985	1011	1015	1017	1024	1057	1243
		1717	2368	3245	3322	3323	3324	3325	3326
Vigna radiata	Berken	121	284	512	661	756	890	985	1011
		1015	1017	1042	1243	1247			
Vigna radiata	CPI12142	27	54	121	170	284	512	661	890
Vigna radiata	CPI18118	121	512	890					
Vigna umbellata	CPI12143	121	170	451					
Vigna unguiculata		756	3164	3243	3244				
Vigna unguiculata	Poona	45	121	159	233	439	453	454	756
		769							
Vigna unguiculata	Vita4	756	1015	1024	3319	3320	3321		
Viminaria denudata		3464							
Zornia sp.	CPI33207	756							
Zornia sp.	CPI34758	103	159	756	1408	1546	1552		
Zornia sp.	CPI40334	756							
Zornia diphylla	CPI34941	530	1546						
Zornia diphylla	CPI40327	756							
Zornia glochidiata	CPI50377	756							

List of Strains of RNB with Published Performance Information.

CB No: 44 Original Label:
Synonym(s) : Country : Australia
Host of Origin: *Stylosanthes guianensis* Town : Gatton
Growth Rate : Slow Reaction: Alkaline Soil Type: pH:
Effectiveness : *Stylosanthes erecta, S. guianensis, S. humilis, S. subsericea, S. viscosa.*
Notes :
Reference(s) : 17, 30, 35, 45

CB No: 81 Original Label:
Synonym(s) : Country : Australia
Host of Origin: *Leucaena leucocephala* Town : Brisbane
Growth Rate : Fast Reaction: Acid Soil Type: pH:
Effectiveness : *Leucaena leucocephala* and some *Desmanthus virgatus.*
Notes : Moderately competitive and acid soil tolerant.
Reference(s) : 8, 29, 37, 40, 45

CB No: 82 *[2] Original Label:
Synonym(s) : Country : Australia
Host of Origin: *Stylosanthes guianensis* Town : Fitzroyvale
Growth Rate : Intermediate Reaction: Neutral Soil Type: pH:
Effectiveness : Many species of *Stylosanthes* (10 species) including *S. hamata* (tetraploid), *Macroptilium atropurpureum.*
Notes : Diagnostic and key-strain for screening new accessions of Stylosanthes. Best strain for *S. guianensis* "fine-stem" types.
Reference(s) : 17, 30, 35, 45

CB No: 103 Original Label:
Synonym(s) : Country : Australia
Host of Origin: *Stylosanthes humilis* Town : Katherine
Growth Rate : Slow Reaction: Neutral Soil Type: pH:
Effectiveness : Many species of *Stylosanthes* (8 species) including *S. hamata* (tetraploid), *Macroptilium atropurpureum* and *Zornia.*
Notes :
Reference(s) : 15, 17, 35, 45

CB No: 121 Original Label:
Synonym(s) : Country : Australia
Host of Origin: *Macroptilium lathyroides* Town : Rockhampton
Growth Rate : Slow Reaction: Alkaline Soil Type: pH:
Effectiveness : *Stylosanthes humilis,* most species of *Teramnus* (6 species), *Cyamopsis psoraloides, Desmodium uncinatum, Dolichos sericeus, Macroptilium atropurpureum, M. lathyroides, Macrotyloma africanum, M. axillare, M. uniflorum, Neonotonia wightii, Phaseolus coccineus, P. vulgaris* and many species of *Vigna* (6 species).
Notes :
Reference(s) : 45

[2] * denotes Commercial Inoculant

CB No: 159 Original Label:
Synonym(s) : Country : Australia
Host of Origin: *Dolichos trilobus* Town : Maryborough
Growth Rate : Slow Reaction: Alkaline Soil Type: pH:
Effectiveness : Many species of *Stylosanthes* (8 species) including *S. hamata* (tetraploid), *Clitoria ternatea, Dolichos sericeus, D. trilobus, Glycine latifolia, Kummerowia striata, Lablab purpureus, Lespedeza juncea , L. sericea, Macrotyloma africanum, M. axillare, M. uniflorum, Vigna marina* and *V. unguiculata.*
Notes : Diagnostic strain for screening new accessions of *Stylosanthes.*
Reference(s) : 17, 45

CB No: 328 Original Label:
Synonym(s) : Country : Australia
Host of Origin: *Zornia diphylla* Town : Katherine
Growth Rate : Slow Reaction: Neutral Soil Type: pH:
Effectiveness : Many species of *Stylosanthes* (9 species) including *S. hamata* (tetraploid).
Notes :
Reference(s) : 15, 17, 35, 45

CB No: 376 * Original Label:
Synonym(s) : Country : South Africa
Host of Origin: *Lotononis bainesii* Town : Pretoria
Growth Rate : Intermediate Reaction: Alkaline Soil Type: pH:
Effectiveness : *Lotononis bainesii, L. laxa, L. leptoloba* and *L. mucronata.*
Notes : Very persistent in the field.
Reference(s) : 19, 45

CB No: 526 Original Label: 58A 6 6
Synonym(s) : Country : Kenya
Host of Origin: *Trifolium semipilosum* Town : Nairobi
Growth Rate : Fast Reaction: Neutral Soil Type: pH:
Effectiveness : *Trifolium burchellianum, T. rueppellianum, T. semipilosum.*
Notes :
Reference(s) : 28, 31, 33, 45

CB No: 530 Original Label:
Synonym(s) : Country : Australia
Host of Origin: *Arachis prostrata* Town : Samford
Growth Rate : Intermediate Reaction: Alkaline Soil Type: pH:
Effectiveness : Many species of *Stylosanthes* (9 species) including *S. hamata* (tetraploid) and *Arachis* (8 species), *Macroptilium atropurpureum, Otoptera burchellii, Tipuana tipu* and *Zornia diphylla.*
Notes : Diagnostic strain for screening new accessions of *Stylosanthes.*
Reference(s) : 17, 45

CB No: 627 * Original Label: 22-4
Synonym(s) : Country : Zaire
Host of Origin: *Desmodium intortum* Town :
Growth Rate : Intermediate Reaction: Alkaline Soil Type: pH:
Effectiveness : *Codariocalyx gyroides, Desmodium distortum, D. intortum, D. uncinatum.*
Notes : Moderately competitive. Strep/rif selections CB3101, CB3472, CB3474.
Reference(s) : 11, 13, 16, 24, 45

CB No: 727 Original Label:
Synonym(s) : NA175 Country : South Africa
Host of Origin: *Trifolium burchellianum* Town : Franklyn
Growth Rate : Fast Reaction: Acid Soil Type: pH:
Effectiveness : *Trifolium burchellianum, T. rueppellianum, T. usambarense.*
Notes :
Reference(s) : 2, 31, 45

CB No: 756 * Original Label:
Synonym(s) : Country : Zimbabwe
Host of Origin: *Macrotyloma africanum* Town : Marandellas
Growth Rate : Slow Reaction: Neutral Soil Type: pH:
Effectiveness : Wide range genera and species including *Arachis, Cajanus, Calopogonium, Chamaecrista, Clitoria, Cyamopsis, Desmodium, Dolichos, Indigofera, Lablab, Lespedeza, Macroptilium, Macrotyloma, Neonotonia, Pueraria, Stylosanthes, Teramnus, Vigna* and *Zornia.*
Notes : Although one of the most promiscuously effective strains, it is only moderately competitive and poor capacity to survive in soil and rhizosphere. Black nodule strain on Lablab. Strep/spec (CB2939) and strep (CB3284) resistant isolates available.
Reference(s) : 6, 7, 9, 11, 13, 17, 20, 26, 45

CB No: 758 Original Label:
Synonym(s) : NA176 Country : Tanzania
Host of Origin: *Trifolium tembense* Town : Bashai
Growth Rate : Fast Reaction: Acid Soil Type: pH:
Effectiveness : Many species of African *Trifolium* (6 species).
Notes :
Reference(s) : 31, 45

CB No: 771 Original Label:
Synonym(s) : NA179 Country : Tanzania
Host of Origin: *Trifolium usambarense* Town : Mbulu
Growth Rate : Fast Reaction: Acid Soil Type: pH:
Effectiveness : Many species of African *Trifolium* (7 species).
Notes :
Reference(s) : 31, 45

CB No: 782 * Original Label:
Synonym(s) : Country : Kenya
Host of Origin: *Trifolium semipilosum* Town : Kitale
Growth Rate : Fast Reaction: Acid Soil Type: pH:
Effectiveness : *Trifolium semipilosum.*
Notes : Strong competitor and good survival.
Reference(s) : 25, 31, 33, 45

CB No: 788 Original Label:
Synonym(s) : Country : Australia
Host of Origin: *Trifolium semipilosum* Town : Beerwah
Growth Rate : Intermediate Reaction: Acid Soil Type: pH:
Effectiveness : *Trifolium burchellianum, T. masaiense and T. semipilosum.*
Notes :
Reference(s) : 25, 31, 45

CB No: 948 Original Label: NGR8
Synonym(s) : RM1 Country : Papua New Guinea
Host of Origin: *Leucaena leucocephala* Town :
Growth Rate : Fast Reaction: Acid Soil Type: pH:
Effectiveness : Many species of *Desmanthus* (6 species) and *Leucaena* (21 species).
Notes : Sensitive to acid soil conditions.
Reference(s) : 8, 12, 38, 39, 45

CB No: 1015 * Original Label:
Synonym(s) : Country : India
Host of Origin: *Vigna radiata* Town :
Growth Rate : Slow Reaction: Alkaline Soil Type: pH:
Effectiveness : *Alysicarpus vaginalis, Clitoria ternatea, Cyamopsis senegalensis, C. tetragonolobus, Indigofera schimperi, Otoptera burchellii,* and many species of *Vigna* (5 species).
Notes : Highly persistent and competitive.
Reference(s) : 7, 9, 26, 45

CB No: 1024 * Original Label:
Synonym(s) : Country : India
Host of Origin: *Macrotyloma uniflorum* Town : Coimbatore
Growth Rate : Intermediate Reaction: Alkaline Soil Type: pH:
Effectiveness : *Alysicarpus vaginalis, Arachis hypogaea, Cajanus cajan, Clitoria ternatea, Cyamopsis senegalensis, C. tetragonolobus, Glycine latifolia, Indigofera schimperi, Lablab purpureus, Macroptilium atropurpureum, Macrotyloma daltonii, Neonotonia wightii, Otoptera burchellii, Rhynchosia minima, Vigna angularis, V. parkeri, V. unguiculata.*
Notes :
Reference(s) : 7, 9, 45

CB No: 1323 Original Label:
Synonym(s) : Country : Zambia
Host of Origin: *Lotononis angolensis* Town : Fort Jameson
Growth Rate : Intermediate Reaction: Alkaline Soil Type: pH:
Effectiveness : Some accessions of *Lotononis angolensis,* most *L. laxa* and *L. mucronata.*
Notes :
Reference(s) : 45

CB No: 1408 Original Label:
Synonym(s) : Country : French Guiana
Host of Origin: *Stylosanthes guianensis* Town :
Growth Rate : Slow Reaction: Alkaline Soil Type: pH:
Effectiveness : Many species of *Stylosanthes* (10 species) including *S. hamata* (tetraploid) and *S. seabrana.*
Notes : Diagnostic strain for screening new accessions of *Stylosanthes.*
Reference(s) : 17, 45

CB No: 1650 * Original Label:
Synonym(s) : Country : Brazil
Host of Origin: *Stylosanthes guianensis* Town : Matao
Growth Rate : Slow Reaction: Acid Soil Type: pH:
Effectiveness : Many species of *Stylosanthes* (10 species) including *S. hamata* (tetraploid) and *S. seabrana.* Best strain for *S. hamata* (tetraploid types).
Notes : Highly competitive, persistent and acid soil tolerant. Key and diagnostic strain for screening new accessions of *Stylosanthes.*
Reference(s) : 10, 17, 18, 45

CB No: 1717 Original Label:
Synonym(s) : Country : Brazil
Host of Origin: *Macroptilium erythroloma* Town : Pirassununga
Growth Rate : Slow Reaction: Alkaline Soil Type: pH:
Effectiveness : Most accessions of *Macroptilium atropurpureum, M. bracteatum, M. martii, M. panduratum* and *Vigna parkeri.*
Notes :
Reference(s) : 45

CB No: 1809 * Original Label: USDA136
Synonym(s) : 3I1b136 Country : United States
Host of Origin: *Glycine max* Town : Beltsville
Growth Rate : Intermediate Reaction: Alkaline Soil Type: pH:
Effectiveness : Most *Glycine max* except cv. Hardee.
Notes : Competitive and persistent. Strep/spec isolate CB2940.
Reference(s) : 9, 45

CB No: 1923 * Original Label: C101a
Synonym(s) : SFS261 Country : Brazil
Host of Origin: *Centrosema pubescens* Town : Seropedica
Growth Rate : Slow Reaction: Alkaline Soil Type: pH:
Effectiveness : *Centrosema pubescens.*
Notes : Highly competitive. Black nodule strain.
Reference(s) : 11, 45

CB No: 2085 Original Label:
Synonym(s) : Country : Australia
Host of Origin: *Desmodium heterophyllum* Town : Sth Johnstone
Growth Rate : Slow Reaction: Neutral Soil Type: pH:
Effectiveness : *Desmodium heterophyllum, Tadehage triquetrum.*
Notes :
Reference(s) : 45

CB No: 2126 Original Label:
Synonym(s) : Country : Jamaica
Host of Origin: *Stylosanthes hamata* Town : Kingston
Growth Rate : Slow Reaction: Alkaline Soil Type: pH:
Effectiveness : Many species of *Stylosanthes* (9 species) but one of few strains for *S. calcicola, S. hamata* (diploid) and *S. seabrana.*
Notes : Not field competent (poor competitor/ survivor). Strep/spec (CB3259) and strep/spec/rif (CB3260) isolates available.
Reference(s) : 13, 17, 22, 41, 45

CB No: 2152 Original Label:
Synonym(s) : Country : United States
Host of Origin: *Stylosanthes hamata* Town : Miami
Growth Rate : Slow Reaction: Alkaline Soil Type: pH:
Effectiveness : Many species of *Stylosanthes* (7 species) but one of few strains for *S. calcicola, S. hamata* (diploid) and *S. seabrana.*
Notes : Not field competent (poor competitor/ survivor).
Reference(s) : 17, 45

CB No: 2168 Original Label:
Synonym(s) : Country : Tanzania
Host of Origin: *Stylosanthes fruticosa* Town : Msalto
Growth Rate : Slow Reaction: Acid Soil Type: pH:
Effectiveness : *Stylosanthes fruticosa.*
Notes :
Reference(s) : 17, 45

CB No: 2229 Original Label:
Synonym(s) : Country : Costa Rica
Host of Origin: *Stylosanthes guianensis* Town : Toboga
Growth Rate : Intermediate Reaction: Alkaline Soil Type: pH: 6.5
Effectiveness : Many species of *Stylosanthes* (9 species), especially *S. guianensis.*
Notes : Not field competent.
Reference(s) : 13, 17, 45

CB No: 2312 * Original Label:
Synonym(s) : Country : Australia
Host of Origin: *Aeschynomene falcata* Town : Grafton
Growth Rate : Slow Reaction: Alkaline Soil Type: pH:
Effectiveness : *Aeschynomene falcata.*
Notes :
Reference(s) : 45

CB No: 2464 Original Label:
Synonym(s) : Country : Brazil
Host of Origin: *Stylosanthes guianensis* Town : Uberlandia
Growth Rate : Slow Reaction: Alkaline Soil Type: pH:
Effectiveness : *Stylosanthes guianensis,* especially "fine-stem" and "Tardio" types.
Notes : Kan/rif isolate CB3261.
Reference(s) : 13, 14, 45

CB No: 2795 Original Label: DR1/5
Synonym(s) : Country : Australia
Host of Origin: *Glycine clandestina* Town : Piccabeen
Growth Rate : Slow Reaction: Alkaline Soil Type: pH:
Effectiveness : *Glycine latifolia.*
Notes :
Reference(s) : 45

CB No: 2797 Original Label: BR-1CA(S5)
Synonym(s) : Country : Brazil
Host of Origin: *Macroptilium atropurpureum* Town :
Growth Rate : Fast Reaction: Acid Soil Type: pH:
Effectiveness : *Stylosanthes guianensis,* especially "fine-stem" and "Tardio" types.
Notes : Persistent in field.
Reference(s) : 14, 45

CB No: 2949 Original Label:
Synonym(s) : Country : Australia
Host of Origin: *Centrosema brasilianum* Town : Katherine
Growth Rate : Fast Reaction: Alkaline Soil Type: pH: 7.0
Effectiveness : *Centrosema brasilianum.*
Notes :
Reference(s) : 45

CB No: 3035 * Original Label: QA1083
Synonym(s) : Country : Australia
Host of Origin: *Macrotyloma axillare* Town : Gatton
Growth Rate : Intermediate Reaction: Alkaline Soil Type: pH:
Effectiveness : *Albizia lebbeck, Cyamopsis tetragonoloba.*
Notes :
Reference(s) : 44, 45

CB No: 3048 Original Label: RAD446/1
Synonym(s) : Country : Venezuela
Host of Origin: *Stylosanthes capitata* Town : Pariaguan
Growth Rate : Reaction: Alkaline Soil Type: pH: 5.5
Effectiveness : *Stylosanthes capitata* and many accessions of *S. hamata* (tetraploid).
Notes : Several kan/spec resistant isolates (CB3264, CB3265, CB3266, CB3267 and CB3268).
Reference(s) : 41, 45

CB No: 3050 Original Label: RAD261/7
Synonym(s) : CIAT1460 Country : Colombia
Host of Origin: *Stylosanthes guianensis* Town : Pto Lopez
Growth Rate : Slow Reaction: Acid Soil Type: pH: 4.5
Effectiveness : *Stylosanthes capitata* and many accessions of *S. hamata* (diploid and tetraploid).
Notes : Strep/spec/rif (CB3275) and strep/spec (CB3273 and CB3274) isolates.
Reference(s) : 41, 45

CB No: 3055 Original Label: CIAT170
Synonym(s) : Country : Brazil
Host of Origin: *Stylosanthes* sp. Town :
Growth Rate : Reaction: Alkaline Soil Type: pH:
Effectiveness : Many accessions of *Stylosanthes capitata, S. guianensis* and *S. macrocephala.*
Notes : Strep/rif isolate CB3270.
Reference(s) : 41, 45

CB No: 3060 * Original Label: ST71/4/4
Synonym(s) : TAL1145, CIAT1967 Country : Australia
Host of Origin: *Leucaena diversifolia* Town : Townsville
Growth Rate : Fast Reaction: Neutral Soil Type: Alluvial loam pH:
Effectiveness : Many species of *Desmanthus* (7 species) and *Leucaena* (21 species).
Notes : Persists and nodulates in acid soils.
Reference(s) : 8, 12, 21, 23, 27, 36, 37, 38, 39, 45

CB No: 3077 Original Label: 570.5
Synonym(s) : ST1 Country : Australia
Host of Origin: *Desmodium intortum* Town : Tumbulgum
Growth Rate : Intermediate Reaction: Alkaline Soil Type: R-y Podzolic pH: 4.4
Effectiveness : *Desmodium intortum.*
Notes : Dominant type in population and competitive. Strep/rif isolate CB3096.
Reference(s) : 16, 24

CB No: 3078 Original Label: 570.40
Synonym(s) : ST2 Country : Australia
Host of Origin: *Desmodium intortum* Town : Tumbulgum
Growth Rate : Slow Reaction: Alkaline Soil Type: R-y Podzolic pH: 4.4
Effectiveness : *Desmodium intortum.*
Notes : Dominant type in population and competitive. Strep/rif isolate CB3097.
Reference(s) : 16, 24

CB No: 3079 Original Label: 831.18
Synonym(s) : SB1 Country : Australia
Host of Origin: *Desmodium intortum* Town : Beerwah
Growth Rate : Slow Reaction: Alkaline Soil Type: Gleyed Podzolic pH: 4.8
Effectiveness : *Desmodium intortum.*
Notes : Dominant type in population and competitive. Strep/rif isolate CB3098.
Reference(s) : 16, 24

CB No: 3080 Original Label: 673.19
Synonym(s) : SS1 Country : Australia
Host of Origin: *Desmodium intortum* Town : Samford
Growth Rate : Intermediate Reaction: Alkaline Soil Type: Red Podzolic pH: 4.2
Effectiveness : *Desmodium intortum.*
Notes : Dominant type in population and competitive. Strep/rif isolate CB3099.
Reference(s) : 16, 24

CB No: 3081 Original Label: 677.3
Synonym(s) : SS2 Country : Australia
Host of Origin: *Desmodium intortum* Town : Samford
Growth Rate : Slow Reaction: Alkaline Soil Type: Red Podzolic pH: 4.2
Effectiveness : *Desmodium intortum.*
Notes : Dominant type in population and competitive. Strep/rif isolate CB3100.
Reference(s) : 16, 24

CB No: 3090* Original Label: RAD608/6
Synonym(s) : Country : Sri Lanka
Host of Origin: *Gliricidia sepium* Town :
Growth Rate : Intermediate Reaction: Acid Soil Type: pH:
Effectiveness : *Calliandra calothyrsus, Gliricidia sepium.*
Notes :
Reference(s) : 1, 32, 45

CB No: 3108 Original Label: TAL600
Synonym(s) : Country : United States
Host of Origin: *Prosopis chilensis* Town : Paia
Growth Rate : Fast Reaction: Acid Soil Type: pH:
Effectiveness : *Calliandra calothyrsus,* many species of *Desmanthus* (10 species) and *Leucaena* (21 species).
Notes :
Reference(s) : 37, 38, 45

CB No: 3125* Original Label: CIAT3101
Synonym(s) : Country : Colombia
Host of Origin: *Centrosema macrocarpum* Town : Santa Marta
Growth Rate : Fast Reaction: Neutral Soil Type: pH:
Effectiveness : *Arachis burkartii, A. paraguariensis, A. pintoi* and *A. stenosperma.*
Notes :
Reference(s) : 45

CB No: 3126* Original Label: RAD44/1
Synonym(s) : Country : Mexico
Host of Origin: *Leucaena leucocephala* Town : Altamirano
Growth Rate : Fast Reaction: Acid Soil Type: pH: 6.2
Effectiveness : Many species of *Desmanthus* (12 species) and *Leucaena* (20 species).
Notes : Field competent. Strep/rif isolate CB3547w.
Reference(s) : 3, 4, 5, 12, 45

CB No: 3128 Original Label: RAD59/2
Synonym(s) : Country : Mexico
Host of Origin: *Leucaena leucocephala* Town : Altamirano
Growth Rate : Fast Reaction: Acid Soil Type: pH: 8.5
Effectiveness : Many species of *Desmanthus* (9 species) and *Leucaena* (20 species).
Notes : Field competent.
Reference(s) : 12, 37, 38, 45

CB No: 3138 Original Label: MS111
Synonym(s) : Country : Malaysia
Host of Origin: *Leucaena leucocephala* Town :
Growth Rate : Reaction: Soil Type: pH:
Effectiveness : Many species of *Desmanthus* (7 species) and *Leucaena* (14 species).
Notes : Field competent.
Reference(s) : 12, 37, 38, 45

CB No: 3165 Original Label: NA1601
Synonym(s) : NN CP (a) Country : Nigeria
Host of Origin: *Vigna unguiculata* Town :
Growth Rate : Slow Reaction: Alkaline Soil Type: pH:
Effectiveness : *Otoptera burchellii* and *Vigna unguiculata.*
Notes : Acid soil tolerant.
Reference(s) : 34, 45

CB No: 3171 Original Label: TAL33
Synonym(s) : Country : Nicaragua
Host of Origin: *Calliandra calothyrsus* Town :
Growth Rate : Reaction: Soil Type: pH:
Effectiveness : *Calliandra calothyrsus.*
Notes : Field competent.
Reference(s) : 32, 43, 45

CB No: 3287 Original Label: PMA295/2
Synonym(s) : Country :
Host of Origin: *Sesbania sesban* Town :
Growth Rate : Reaction: Soil Type: pH:
Effectiveness : *Sesbania sesban.*
Notes :
Reference(s) : 32

CB No: 3301 Original Label: RAD747/1
Synonym(s) : Country : Pakistan
Host of Origin: *Sesbania grandiflora* Town :
Growth Rate : Intermediate Reaction: Acid Soil Type: pH:
Effectiveness : *Sesbania aculeata, S. erubescens, S. grandiflora.*
Notes :
Reference(s) : 32, 45

CB No: 3311 Original Label: RAD581/1
Synonym(s) : Country : Ethiopia
Host of Origin: *Trifolium polystachyum* Town :
Growth Rate : Reaction: Soil Type: pH: 5.5
Effectiveness : Many species of African *Trifolium* (7 species).
Notes :
Reference(s) : 45

CB No: 3315 Original Label: RAD593/3
Synonym(s) : Country : Ethiopia
Host of Origin: *Trifolium decorum* Town :
Growth Rate : Reaction: Soil Type: pH: 5.5
Effectiveness : Many species of African *Trifolium* (7 species).
Notes :
Reference(s) : 45

CB No: 3458 Original Label: INA4b
Synonym(s) : Country : Indonesia
Host of Origin: *Calliandra calothyrsus* Town :
Growth Rate : Fast Reaction: Acid Soil Type: pH:
Effectiveness : *Calliandra calothyrsus.*
Notes : Not field competent.
Reference(s) : 32, 43, 45

CB No: 3480 Original Label: RAD969/52
Synonym(s) : Country : Brazil
Host of Origin: *Stylosanthes seabrana* Town : Barreiras
Growth Rate : Very slow Reaction: Alkaline Soil Type: pH:
Effectiveness : *Stylosanthes seabrana.*
Notes : Not field competent.
Reference(s) : 42, 45

CB No: 3481 * Original Label: RAD1155/101
Synonym(s) : Country : Brazil
Host of Origin: *Stylosanthes seabrana* Town : Palmeiras
Growth Rate : Very slow Reaction: Alkaline Soil Type: R-Y latosol pH: 6.4
Effectiveness : *Stylosanthes seabrana.*
Notes : Very persistent in field. Strep/rif isolate CB3546r1.
Reference(s) : 42, 45

CB No: 3482 Original Label: RAD985/6
Synonym(s) : Country : Brazil
Host of Origin: *Stylosanthes macrocephala* Town : Barreiras
Growth Rate : Slow Reaction: Alkaline Soil Type: pH:
Effectiveness : *Stylosanthes macrocephala.*
Notes :
Reference(s) : 45

CB No: 3495 Original Label: RAD1171/162
Synonym(s) : Country : Brazil
Host of Origin: *Stylosanthes seabrana* Town : Seabra
Growth Rate : Very slow Reaction: Alkaline Soil Type: R-Y Latosol pH: 5.9
Effectiveness : *Stylosanthes seabrana.*
Notes : Very persistent in field.
Reference(s) : 42, 45

CB No: 3564 Original Label: RAD1154/56
Synonym(s) : Country : Brazil
Host of Origin: *Stylosanthes seabrana* Town : Palmeiras
Growth Rate : Very slow Reaction: Alkaline Soil Type: R-Y Latosol pH: 6.4
Effectiveness : *Stylosanthes macrocephala.*
Notes :
Reference(s) : 45

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43. Unpublished data - R.A. Date and B. Palmer. Nodulation and persistence of rhizobia for *Calliandra calothyrsus* in the field.
44. Unpublished data - A. Diatloff. DPI rhizobial strain recommendations for inoculating tropical legumes.
45. This GRC.

Appendix I. Freeze-drying *Rhizobium/Bradyrhizobium*

The Equipment and Culture Preparation

We use an Edwards Model EFO3 (now FO56 -37-000) fitted with a centrifugal carrier tray of 96 x 0.5 mL ampoule (HO14-30-81) capacity for primary drying and a double headed manifold unit for secondary drying. Constriction of ampoules is achieved using an Edwards semi automatic ampoule constrictor (Rowe and Snowman 1978; Edwards High Vacuum International 1988).

Cultures of each strain are grown in 16 x 150 mm screw-capped test-tubes on YMA containing bromothymol blue indicator (Norris and Date 1976). Freshly inoculated tubes are incubated at 26-28°C for 2-3, 3-5, 5-9 or 10-14 days, respectively, according to our categorization of growth rates for fast- (e.g., CB3060), intermediate- (e.g., CB82), slow- (e.g., CB756) and very slow- (e.g., CB2898) growing strains. Some strains (e.g. CB3049) from *Stylosanthes* require a medium of pH 4.5-5.0 for optimal growth at these times (Date and Halliday 1979). The growth from a single test-tube is suspended in 2 mL of a 10% sucrose + 5% peptone solution. An aliquot of 0.2 mL is added to each ampoule which contains a filter paper insert 5 x 15 mm on which is printed the strain's CB accession number and the date of ampouling (e.g., CB3060 7/92). Inserts serve as labels and as a means of increasing surface area for more rapid drying. They also reduce "boiling" of the suspension when the vacuum is first applied and avoids the need for pre-freezing. The label inserts are generated on a desk-top computer running an in-house software program and printed on high grade chromatography paper using a preservative free carbon based ribbon or toner cartridge.

Schedule

If ampoules and inserts are prepared the day prior to freeze-drying it is possible to complete the preservation of strains in batches of 96 ampoules in a single working day. Our schedule is to add 2 mL of the sucrose/peptone solution to the agar slopes either the evening before or a minimum of 1 hour before dispensing. The culture is suspended by drawing the liquid up and down forcibly with a pasteur pipette and using the same pipette to dispense 0.2 mL lots of the sucrose/peptone/culture mixture to the ampoules (±1 hour). Primary drying, using an alcohol/dry-ice mixture as a "desiccant", to a vacuum of 0.1 Torr (±1-1.5 hours) at which stage the ampoules are constricted (±0.5-1 hour), and then placed on the secondary drying manifold. This stage uses P_2O_5 as a desiccant in the vacuum chamber to remove water vapour. The ampoules are sealed using a bifurcated flame torch (Flamemaster) after 3-4 hours when the vacuum has reached <0.06 Torr.

There are three very important aspects of this freeze-drying procedure that contribute significantly to the storage life of the culture and the recovery of a high proportion of the bacterial cells on reconstitution. These are:
a) the sucrose/peptone suspending medium which affords protection for the cells during dehydration and rehydration (Table A),
b) the filter paper insert to aid in more rapid drying and a higher proportion recovery of the cells, and
c) correct (adequate) thickening of the ampoule wall at the point of constriction to prevent implosion at sealing-off or damage during storage. If the wall is too thin there is a high risk of breakage and gas (oxygen) transfer (entry). We prefer vacuum sealing to the introduction of inert gas at atmospheric pressure. A small but significant feature is the density of the cotton-wool plug in the ampoule. This must be firm (to prevent it moving) but not so dense that it retards moisture passage during the drying process. Air (oxygen) and moisture are detrimental to survival of the dried cells.

Cultures can be recovered from the ampoules by resuspending in appropriate medium or simply transferring the label insert to a culture-tube or petri-dish with appropriate medium. Ampoules should be scored with a glass-cutting knife or diamond pencil for about one-third of their circumference, 1 - 1.5cm from the constricted end, wiped clean with an alcohol soaked swab and lightly flamed. The ampoule is then readily snapped open in front of a sterilizing flame in a laminar flow transfer unit. Hold the body of

the ampoule and the tip section above the score mark between thumbs and forefingers, with the score mark facing away from the operator, and snap with a sharp, firm action. The ampoule will break smoothly at right-angles at the line of scoring.

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Table A. The effect of suspending medium on the percentage recovery of *Rhizobium* strain TA1 (CB1990) from freeze-dried cultures.

Suspending medium	<----------% Recovery after----------→			
	Primary Drying	Secondary Drying	6 Weeks	13 Weeks
dH_20				<1
10% Sucrose	30	15	3	4
5% Peptone	58	51	13	26
10%Sucrose + 5% Peptone				37

Appendix II. List of prefixes and acronyms used in CB Accession list.

AH	= RCR
AR	= NA
Aso	= USDA
BR	UAPNPBS, EMBRAPA, km47, Seropedica, 23460, RJ, Brazil
C	= BR
CB	CSIRO Tropical Agriculture, Brisbane, Australia
CC	CSIRO Plant Industry, Canberra, Australia
CIAT	Centro Internacional de Agricultura Tropical, Cali, Colombia
CP	= CB
DII	= CB
DR	= CB
DSIR	(New Zealand) Department of Scientific and Industrial Research, Palmerston North, NZ
FI	= CB
Grasslands	= R
IC	ICRISAT, Hyderabad, India
IHP	= IC
INA	Indonesia Agriculture (NUR)
J	= DSIR
JAP	= USDA
Lucerne	= WA
MS	MARDI, Malaysia
NA	NSW Agriculture
NC	North Carolina University, NC, USA
NGR	New Guinea Department of Agriculture, Port Moresby, PNG
NN	= RCR
NZP	= DSIR
PMA	Plant Microbiology Agriculture, School of Land and Food, University of Queensland, Brisbane, Australia
QA	Queensland Department of Primary Industries, Brisbane, Australia
R	Marandera Research Station, Marandera, Zimbabwe
RAD	= CB
RCR	Rothamsted Culture Collection, Rothamsted, UK
RM	= NGR
ROTH	= RCR
SB	= CB
SFS	= SMS
SMS	Seccao de Microbiologia do Solo, Instituto Agronomico de Sao Paulo, Campinas, Brazil
SS	= CB
ST	= CB
SU	University of Sydney, Sydney, Australia
TA	Tasmanian Department of Agriculture, Launceston, Tasmania
TAL	NifTAL, University of Hawaii, Paia, Maui, HA, USA
U	Laboratorio de Microbiologia de Seulos, Plan Agropecuario del Ministerio de Granado y Agricultura, Montevideo, Uruguay
UNZ	= U
USDA	United States Department of Agriculture, Beltsville, MD, USA
VB	= CB
W	= WA
WA	Agriculture Western Australia, Perth, Western Australia
WIS	University of Wisconsin, Wisconsin, USA
WU	University of Western Australia, Perth, Western Australia