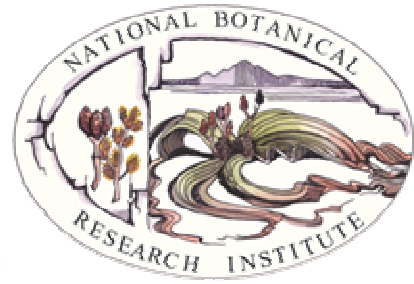


# Kew

PLANTS PEOPLE  
POSSIBILITIES



This report was generated from the SEPASAL database ([www.kew.org/ceb/sepasal](http://www.kew.org/ceb/sepasal)) in August 2007. This database is freely available to members of the public.

SEPASAL is a database and enquiry service about useful "wild" and semi-domesticated plants of tropical and subtropical drylands, developed and maintained at the Royal Botanic Gardens, Kew. "Useful" includes plants which humans eat, use as medicine, feed to animals, make things from, use as fuel, and many other uses.

Since 2004, there has been a Namibian SEPASAL team, based at the National Botanical Research Institute of the Ministry of Agriculture which has been updating the information on Namibian species from Namibian and southern African literature and unpublished sources. By August 2007, over 700 Namibian species had been updated.

Work on updating species information, and adding new species to the database, is ongoing. It may be worth visiting the web site and querying the database to obtain the latest information for this species.

## Internet SEPASAL

New query

Edit query

View query results

 *Display help*In names list include:  synonyms  vernacular names and display: 10  names per page*Your query found 1 taxon***Cynodon dactylon (L.)Pers. [1808]**

Family: POACEAE

**Synonyms**

Panicum dactylon L.

**Vernacular names**

- (India) dhoub [2255], doub [2255], durva [2255], dwiva [2255]  
 (India, Rajasthan) dhob [2162]  
 (Mozambique) grama [2259], grama das boticas [2259], grama vulgar [2259], gramoão [2259]  
 (Somalia) domar [2255]  
 Afrikaans kweekgras [2259] [5115] [5116]  
 (Namibia)  
 Afrikaans (South Africa) Bataviese kweek [2259], Indiese kweek [2259], witkweek (gras) [2259], Oostindies kweek [2259], Oostindies kweekgras [2259], Oostindiese kwaggagrass [2259], kwaggagrass [2259], Oostindiese kwaggakweek [5119], anosterkweek [2259], buffel gras [2259], buffelkweek [2259], buffels gras [2259], buffelskweek [2259], doobgras [2259], kwaggakweek [5119], kweekgras [2259], elandskweek [2259], fyngras [2259], fynkweek [2259], fynkweekgras [2259], garie [2259], garies [2259], gemsbokkweek [2259], gewone kweekgras [2259], growwe kweek [2259], harde kweek [2259], kruisgras [2259], kweek [2259] [5117], kweek gras [2259] [5117], lynkweek [2259], regtekweek [2259], regtekweek gras [2259], renosterkweek [2259], rivierkweek [2259], vingergras [2259]  
 Afrikaans (Zimbabwe) kweek [2259]  
 Arabic (Egypt) meddaad [2255], moddeid [2255], motteit [2255], nigeel (baladi) [2255], nisheel takabalt [2255]  
 Arabic (Iraq) Irq an-najil [2255], najin [2255], najir [2255], rashad [2255]  
 Arabic (Jordan) shirsh-un-unjil [2255]  
 Arabic (Libya) nadgil [2255], nejzeel [2255]  
 Arabic (Morocco) adjezmir [2255], endjil [2255], kezmir [2255], nedjib [2255], negem [6040], zabak [2255]  
 Arabic (Qatar) najeel [2255]  
 Arabic (Saudi Arabia) rashad [2255], rishad [2255], thayyil [2255]  
 Arabic (Syria) al-nagil [2255], al-thayel [2255]  
 Arabic (Tunisia) azezmir [2255], najem [2255]  
 Arabic (Yemen) nigil [2255]  
 Bitonga (Mozambique) guihangahanga [2259]  
 Chope chisangasanga [2259]

(Mozambique)	
Damara (Namibia)	!nobo#gai [5095], #Hara#gai [5095], lgari.b [5095] [5098]
English	creeping finger grass [2255], quack grass [2255], common star grass [5482]
English (American)	Burmuda grass [1375] [2259], wire grass [2259]
English (Argentine)	passridge foot? [2255]
English (Australia)	green couch [1375] [2255]
English (East Africa)	star grass [2259] [6658]
English (Namibia)	Bermuda grass [2259], dog's tooth [5098], couch grass [2259] [5116], quick grass [2259] [5115] [5116], star grass [2259]
English (South Africa)	Bermuda couch grass [2259], Scotch grass [2259], wire grass [2259], Australian couch [2259], Australian couch grass [2259], Bahama grass [1375] [2259], Bahama quick grass [2259], Bermuda grass [2259], Bermuda quick grass [2259], common quick-grass [2259], couch [2259] [5117], couch grass [2259] [5117], Indian couch [2259], Indian couch grass [2259], devil's grass [2259], doab grass [2259], dog's tooth [2259], doob grass [2259], doub [2259], dub grass [2259], fine couch [2259], finger grass [2259], fingers grass [2259], quagga quick [2259], quick [2259], quick grass [2259], running grass [2259], scutch grass [2259], twitch grass [2259], white quick [2259], white quick grass [2259]
English (U.K.)	creeping dog's-tooth-grass [2259], creeping finger grass [2259]
English (Zimbabwe)	African couch grass [2259], couch [2259], couch grass [2259], quick grass [2259], star grass [2259]
German (Namibia)	Hunds-zahngras [2259] [5098], Queckgras [2259] [5115] [5117], Südwester queck [2259]
Herero (Namibia)	otjiwena [5091] [5115]
Hlengwe (Zimbabwe)	lilange [5119]
Jul'hoan (Namibia)	goena [5098] [5115]
Karanga (Zimbabwe)	shanje [2259]
Khoekhoegowab (Namibia)	#hara#gai [5115], lgarib [5115], lhom [5115], lnobo#gai [5115]
Kwanyama (Namibia)	onguena [1304]
Ndebele (Zimbabwe)	uQethu [2259]
Oshiwambo (Namibia)	omguena [5115], omuididi [1304], omwiidi [1304] [5115]
Ronga (Mozambique)	lit'langue [2259], tlangui [2259]
Rukwangali (Namibia)	ngwena [5115]
Sotho (South Africa)	mhloa [2259], mohloa-tsepe [2259], morara [5119], qhaqhae [2259], qobosheane [2259], seihla [2259]
Tima (Kenya)	gi [2255]
Unknown	France chicken foot [2255], Hariah [2255], chiendent pied de poule [2255], domar [2255], gros chiendent [2255], herbe des Bermudes [2255], pata de perd [2255], pied de poule [2255]

Unknown (Bangladesh)	dhoub grass [ <a href="#">1375</a> ]
Unknown (Cuba)	hierba-fina [ <a href="#">1375</a> ]
Unknown (Fiji)	kabuta [ <a href="#">1375</a> ]
Unknown (Mozambique)	chipetzo [ <a href="#">5480</a> ], kapinga [ <a href="#">5480</a> ]
Unknown (Peru)	cama de nino [ <a href="#">1375</a> ], chepica brava [ <a href="#">1375</a> ], gramilla blanca [ <a href="#">1375</a> ], pata de perdiz [ <a href="#">1375</a> ]
Unknown (Suriname)	grinting [ <a href="#">1375</a> ], tigriston [ <a href="#">1375</a> ]
Zezeru (Zimbabwe)	shanje [ <a href="#">2259</a> ], tsangadzi [ <a href="#">2259</a> ]
Zulu (South Africa)	isiFulwane [ <a href="#">2259</a> ], isiNandi [ <a href="#">2259</a> ], uNgwengwe [ <a href="#">2259</a> ], uQambalala (ne) [ <a href="#">2259</a> ], uQethu [ <a href="#">2259</a> ]

## Distribution

Plant origin	Continent	Region	Botanical country	
Native	Africa	East Tropical Africa	Kenya [ <a href="#">1362</a> ] [ <a href="#">2259</a> ]	
		Macaronesia	Azores [ <a href="#">2255</a> ]	
		Northeast Tropical Africa	Somalia [ <a href="#">2255</a> ]	
		Northern Africa	Algeria [ <a href="#">2255</a> ], Egypt [ <a href="#">2255</a> ], Libya [ <a href="#">2255</a> ], Morocco [ <a href="#">2255</a> ], Tunisia [ <a href="#">2255</a> ]	
		South Tropical Africa	Angola [ <a href="#">2259</a> ] [ <a href="#">5126</a> ], Mozambique [ <a href="#">2259</a> ] [ <a href="#">5480</a> ], Zambia [ <a href="#">2259</a> ] [ <a href="#">5481</a> ], Zimbabwe [ <a href="#">2259</a> ] [ <a href="#">5125</a> ]	
		Southern Africa	Botswana [ <a href="#">2259</a> ] [ <a href="#">5104</a> ] [ <a href="#">5186</a> ], Cape Province [ <a href="#">2259</a> ] [ <a href="#">5104</a> ] [ <a href="#">5117</a> ], Caprivi Strip [ <a href="#">2259</a> ] [ <a href="#">5115</a> ], Lesotho [ <a href="#">2259</a> ] [ <a href="#">5104</a> ] [ <a href="#">5117</a> ] [ <a href="#">5131</a> ], Namibia [ <a href="#">2259</a> ] [ <a href="#">5104</a> ] [ <a href="#">5115</a> ], Natal [ <a href="#">2259</a> ] [ <a href="#">5104</a> ] [ <a href="#">5117</a> ], Orange Free State [ <a href="#">2259</a> ] [ <a href="#">5104</a> ] [ <a href="#">5117</a> ], Swaziland [ <a href="#">2259</a> ] [ <a href="#">5104</a> ] [ <a href="#">5117</a> ] [ <a href="#">5452</a> ], Transvaal [ <a href="#">2259</a> ] [ <a href="#">5104</a> ] [ <a href="#">5117</a> ]	
		Asia-Temperate	Caucasus	Armeniya [ <a href="#">2255</a> ]
			Soviet Middle Asia	Kazakhstan [ <a href="#">2255</a> ]
			Western Asia	Afghanistan [ <a href="#">2255</a> ], Cyprus [ <a href="#">2255</a> ], Iran [ <a href="#">2255</a> ], Iraq [ <a href="#">2255</a> ], Israel [ <a href="#">2255</a> ], Jordan [ <a href="#">2255</a> ], Lebanon [ <a href="#">2255</a> ], Syria [ <a href="#">2255</a> ]
		Asia-Tropical	Indian Subcontinent	Pakistan [ <a href="#">2255</a> ]
		Australasia	New Zealand	New Zealand North [ <a href="#">2255</a> ], New Zealand South [ <a href="#">2255</a> ]

	Europe	East Europe	Belorussia [2255], Moldova [2255], Ukraina [2255]
		Middle Europe	Austria [2255], Czechoslovakia [2255], Hungary [2255], Netherlands [2255], Switzerland [2255]
		Northern Europe	Great Britain [2255]
		Southeastern Europe	Albania [2255], Bulgaria [2255], Greece [2255], Italy [2255], Kriti [2255], Romania [2255], Sicilia [2255], Yugoslavia [2255]
		Southwestern Europe	Baleares [2255], Corse [2255], France [2255], Portugal [2255], Sardegna [2255], Spain [2255]
Assumed Native	Africa	East Tropical Africa	Uganda [1362]
Introduced	Antarctic	Subantarctic Islands	South Georgia [2255], Tristan da Cunha [2255]
	Asia-Tropical	Malesia	Philippines [2255]
	Australasia	Australia	New South Wales [1808], Northern Territory [1808], Queensland [1808], South Australia [1808], Tasmania [1808], Victoria [1808], Western Australia [1808]
		New Zealand	Kermadec Is [2255]
	Europe	Middle Europe	Germany [2255]
	Northern America	North-Central U.S.A.	Missouri [2255], Oklahoma [2255]
		Northeastern U.S.A.	Indiana [2255], Pennsylvania [2255]
		Northern Mexico	Baja California [1449], Baja California Sur [1449], Coahuila [2255], Guerrero [2255], Michoacan [2255], Puebla [2255], Sonora [2255], Tamaulipas [2255]
		Northwestern U.S.A.	Oregon [2255]
		South-Central U.S.A.	Texas [2255]
		Southeastern U.S.A.	Arkansas [2255], District of Columbia [2255], Florida [2255], Georgia [2255], North Carolina [2255], Virginia [2255]
		Southwestern U.S.A.	Arizona [2255], California [2255]
	Pacific	North-Central Pacific	Hawaii [2255]

	Southern America	Brazil	Amazonas [ <a href="#">2255</a> ], Bahia [ <a href="#">2255</a> ], Ceara [ <a href="#">2255</a> ], Mato Grosso [ <a href="#">2255</a> ], Parana [ <a href="#">2255</a> ], Pernambuco [ <a href="#">2255</a> ], Piaui [ <a href="#">2255</a> ], Rio de Janeiro [ <a href="#">2255</a> ], Santa Catarina [ <a href="#">2255</a> ], Sao Paulo [ <a href="#">2255</a> ]
		Caribbean	Antigua-Barbuda [ <a href="#">2255</a> ], Bahamas [ <a href="#">2255</a> ], Barbados [ <a href="#">2255</a> ], Bermuda [ <a href="#">2255</a> ], Cuba [ <a href="#">2255</a> ], Dominica [ <a href="#">2255</a> ], Jamaica [ <a href="#">2255</a> ], Netherlands Leeward Is [ <a href="#">2255</a> ], St Vincent [ <a href="#">2255</a> ], Trinidad-Tobago [ <a href="#">2255</a> ]
		Mesoamerica	Chiapas [ <a href="#">2255</a> ], Costa Rica [ <a href="#">2255</a> ], El Salvador [ <a href="#">2255</a> ], Guatemala [ <a href="#">2255</a> ], Honduras [ <a href="#">2255</a> ], Nicaragua [ <a href="#">2255</a> ], Panama [ <a href="#">2255</a> ], Yucatan [ <a href="#">2255</a> ]
		Northern South America	French Guiana [ <a href="#">2255</a> ], Guyana [ <a href="#">2255</a> ], Surinam [ <a href="#">2255</a> ], Venezuela [ <a href="#">2255</a> ]
		Southern South America	Paraguay [ <a href="#">2255</a> ], Uruguay [ <a href="#">2255</a> ]
		Western South America	Bolivia [ <a href="#">2255</a> ], Colombia [ <a href="#">2255</a> ], Ecuador [ <a href="#">2255</a> ], Peru [ <a href="#">2255</a> ]
.	Status Unknown	Africa	
		Macaronesia	Canary Is [ <a href="#">2255</a> ], Madeira [ <a href="#">2255</a> ]
		Middle Atlantic Ocean	Ascension [ <a href="#">2255</a> ], St Helena [ <a href="#">2255</a> ]
		Northeast Tropical Africa	Chad [ <a href="#">2255</a> ], Djibouti [ <a href="#">2255</a> ], Ethiopia [ <a href="#">2255</a> ], Socotra [ <a href="#">2255</a> ], Sudan [ <a href="#">2255</a> ]
		South Tropical Africa	Malawi [ <a href="#">2259</a> ]
		West Tropical Africa	Benin [ <a href="#">2255</a> ], Burkina [ <a href="#">2255</a> ], Ghana [ <a href="#">2255</a> ], Ivory Coast [ <a href="#">2255</a> ], Liberia [ <a href="#">2255</a> ], Mali [ <a href="#">2255</a> ], Niger [ <a href="#">2255</a> ], Nigeria [ <a href="#">2255</a> ], Senegal [ <a href="#">2255</a> ], Sierre Leone [ <a href="#">2255</a> ], The Gambia [ <a href="#">2255</a> ]
		West-Central Tropical Africa	Burundi [ <a href="#">2255</a> ], Cameroon [ <a href="#">2255</a> ], Central African Republic [ <a href="#">2255</a> ], Congo [ <a href="#">5119</a> ], Gabon [ <a href="#">2259</a> ], Rwanda [ <a href="#">2255</a> ], Sao Tome [ <a href="#">2255</a> ], Zaire [ <a href="#">2259</a> ]
		Western Indian Ocean	Madagascar [ <a href="#">2255</a> ],

		Mauritius [2255], Reunion [2255], Seychelles [2255]
Asia-Temperate	Arabian Peninsula	Bahrain [2255], Kuwait [2255], North Yemen [2255], Oman [2255], Qatar [2255], Saudi Arabia [2255], South Yemen [2255], United Arab Emirates [2255]
	China	Fujian [2255], Guangdong [2255], Hong Kong [2255], Jiangsu [2255], Shaanxi [2255], Zhejiang [2255]
	Eastern Asia	Japan [2255], North Korea [2255], South Korea [2255]
	Soviet Middle Asia	Turkmenistan [2255]
Asia-Tropical	Indian Subcontinent	Assam [2255], Bangladesh [2255], Bihar [2255], Gujarat [2255], Himachal Pradesh [2255], Jammu-Kashmir [2255], Maharashtra [2255], Nepal [2255], Orissa [2255], Punjab [2255], Rajasthan [2162], Sri Lanka [2255], Tamil Nadu [2255], Uttar Pradesh [2255], West Bengal [2255]
	Indo-China	Burma [2255], Thailand [2255], Vietnam [2255]
	Malesia	Christmas I [2255], Jawa [2255], Papua New Guinea [2255], Peninsular Malaysia [2255]
Australasia	Australia	Coral Sea Is Terr. [1609]
Europe		
Northern America	Northern Mexico	Jalisco [2255], Morelos [2255], Oaxaca [2255], Veracruz [2255]
Pacific	Northwestern Pacific	Wake Is [2255]
	South-Central Pacific	Cook Is [2255], Easter Is [2255], Marquesas [2255], Society Is [2255]
	Southwestern Pacific	Fiji [2255], New Caledonia [2255], Niue [2255], Phoenix Is [2255], South Solomons [2255], Tonga [2255], Western Samoa [2255]

**ISO countries:** Argentina [2255] , Chile [2255] , India [2255] , Mexico [2255] , Malaysia [2255] , USSR [2255] , Turkey [2255] , United States [2255] , South Africa [2259] [5104] [5117]

## Descriptors

<b>Category</b>	<b>Descriptors and states</b>
DESCRIPTION	Herb [2255]; Prostrate/Procumbent/Semi-erect [1362]; Terrestrial [1362] [2259]; Rhizomatous [1362] [2259] [2837] [5116] [6671]; Slow Growth Rate [2837]; Perennial [1362] [2259] [5115] [5482] [6658] [6671]; Mat Forming [2259] [6671]; Stoloniferous [2259] [2837] [5116] [6671]; Plant Height 0.05-0.6 m [1362] [2259] [5104] [5116]
CLIMATE	Not Frost Tolerant [2255]; Tropical Summer Rains [1362]; Frost Tolerant [1375]; Annual Rainfall 100-1750 mm [1375] [2255]
SOILS	Acid [2255]; Neutral [2255]; Saline [2255] [2837]; Alluvial Soils [5091]; Alkaline [2837] [5116]; Dry [2259]
HABITAT	Coastal Regions [6671]; Pioneer Species [1375] [2259]; Non-Coastal Regions; Plains/Flats/Pans [5482]; Valleys [5482]; Grassland/Forb-Land [5117] [5482]; Wooded Grassland [5117] [5334] [6671]; Invasive Species [6671]; Hillsides/Slopes [5482]; Wooded Shrubland [2182] [5117]; Desert [2182]; Termitaria [2259]; Watercourses [5116] [5117]; Lakes/Ponds/Pools [2837] [5482]; Anthropogenic Landscapes [1362] [2182] [2259] [5115] [5117] [6658] [6671]; Rural Anthropogenic Landscapes [6671]; Croplands [2259] [5115] [5117] [5482] [6671]; Rangelands/Pastures [6671]; Altitude 0-2600 m a.s.l. [1362] [2255] [5104] [5482]
PHYSIOLOGY	Light Demanding [2259]; Grazing/Browsing Resistant [1375] [5117] [5639]; C4 [123]; Drought Tolerant [1375] [2255] [2837]; Susceptible to Non-Insect Pests [1375] [2182]
PRODUCTION AND VALUE	Recommended for Cultivation [2259] [5117]; Potential Environmental Uses [2259] [5117]
CONSTRAINTS	Weed [1362] [2182] [5115]; Agricultural Weed [2259] [5116] [5117] [6658]; Susceptible to Fungal Diseases [1375]; Garden Weed [5116] [5117]
SOURCES OF PLANTING MATERIAL	RBG Kew Seed Bank [2255]; Other Seed Sources [2837]
FURTHER DATA SOURCES	Botanical Illustration [1360] [1375] [2182] [2259] [2837] [5116]; Additional References [388] [557] [1204] [1519] [5601] [5629] [5630] [5631] [5632] [5633] [5634] [5637] [5638] [5659] [6347] [6348] [6349] [6350] [6351]; Regional Distribution Map [2259]; Botanical Photograph [5117]; Habit Illustration/Photograph [5116] [5117]; Grid Map [2182] [5116] [5117]
SEPASAL DATASHEET STATUS	All Data Transferred from SEPASAL Paper Files [6040]; Nomenclature Checked
CHEMICAL ANALYSES	Poisonous Compounds - aerial parts [1340] [1375] [5116]; Laboratory Tested Biological Activity - aerial parts [1340]; Nutritional Analyses - aerial parts [388] [1375] [1653] [2837]; Other Analyses - aerial parts [1340] [2182]; Proteins - aerial parts [388] [1375] [1653]; Vitamin C (ascorbic acid) - unspecified parts [1340]

## Uses

<b>Major use</b>	<b>Use group</b>	<b>Specific uses</b>
FOOD [2182]	Unspecified Aerial Parts Seeds	beverages [2182]
ANIMAL FOOD	'Roots' Fertile Plant Parts  Aerial Parts	roots, sheep [2255] seeds, concentrates [2255]; inflorescences, game mammals, grazing [388] leaves, bovines, grazing [2255]; leaves, grazing [2255]; leaves, bovines, fodder [2255]; unspecified aerial parts, hay/straw [1375] [2255]; unspecified aerial parts, silage [1375] [2255]; camels, grazing [2162]; cattle, grazing, dry season [1304] [5115]; donkeys, grazing, dry season [1304] [5115]; cattle, grazing [5095] [5115]; unspecified aerial parts, mammals, grazing [2259] [5091]; leaves,



		game mammals, grazing [388]; unspecified aerial parts, grazing [1375] [2182] [2259] [5116] [5117] [5639]; unspecified aerial parts, fodder [2837]; stems, primates [2514]; unspecified aerial parts, donkeys, grazing, dry season [5115]; unspecified aerial parts, cattle, grazing, dry season [5115]; unspecified aerial parts, game mammals, grazing [2259]; unspecified aerial parts, birds [1375]; unspecified aerial parts, birds, grazing [1375]; unspecified aerial parts, goats, grazing [1375]; unspecified aerial parts, cattle, grazing [1375]; unspecified aerial parts, game mammals, grazing [1375]; grazing, drought season [6671]
MATERIALS	Fibres	unspecified aerial parts, thatch [2255]
SOCIAL USES	'Religious' Uses	ritual/religion/magic [1340]
MEDICINES [1340]	Unspecified Medicinal Disorders	entire plant ex situ, humans [1340]
	Abnormalities	humans, oedemas, lotions [1340] [5098]
	Blood System Disorders	roots, humans, blood [5098]; humans, blood, internal applications [1340] [2182] [5098]; leaves, humans, coagulation; humans, blood, oral ingestion [1340] [2182] [5098]
	Circulatory System Disorders	leaves, humans [2255]; roots, humans, haemorrhoids [5098]; leaves, humans, hypertension [2255]
	Digestive System Disorders	roots, humans, stomach, indigestion, internal applications [1340]; humans, oesophagus, indigestion; roots, humans, stomach, indigestion, oral ingestion [1340]; humans, stomach, indigestion, internal applications; humans, stomach, indigestion, oral ingestion [1340] [2182]
	Genitourinary System Disorders	roots, humans, diuretic [5098]; entire plant ex situ, humans, urination, diuretic, internal applications; entire plant ex situ, humans, urination, diuretic, oral ingestion [1340]; rhizomes, humans, diuretic [2255]
	Infections/Infestations	roots, humans, fever [5098]
	Inflammation	roots, humans, urinary tract, inflammation [5098]
	Injuries	humans, wounds, external applications [1340] [2182] [2255] [5098]; leaves, humans, wounds, external applications [5098]
	Muscular-Skeletal System Disorders	roots, humans, rheumatism [5098]
	Respiratory System Disorders	roots, humans, congestion [5098]
	Skin/Subcutaneous Cellular Tissue Disorders	humans, skin, sores, lotions [1340]; roots, humans [5098]
ENVIRONMENTAL USES	Unspecified Environmental Uses	saline soils [2255]; sports grounds [6671]
	Erosion Control	sands [2255]; dunes [2255]; ground covers, eroded land [1375] [2259] [2837] [5117] [5334] [6671]; ground covers, watercourses [5117]; lawns [6671]; sports grounds [6671]
	Ornamentals	live plant in situ, lawns [1362] [2182] [2259] [2837]; live plant in situ, lawns, sports grounds [2182]

## Picture

None recorded

## Notes

## NOMENCLATURE/TAXONOMY

### *Name derivation:*

From Greek 'kuon', dog, and 'odous', tooth, descriptive of the hard sheaths on the tips of the rhizomes which look like dog's teeth. Dactylon from 'dactulos', a finger; the inflorescence is digitate [2259] .

### *Varieties:*

Bogdan (1977) mentioned four varieties; Var. aridus, elegans, coursii and dactylon [2255] .

### *Varieties:*

C. dactylon has 12 varieties; common Bermuda grass, coastal Bermuda grass, tift Bermuda, St. Lucia Bermuda grass, Alicia, Callie, Oklan, Suwannee Bermuda, coast cross 1, Midland, Hardie and Greenfield [1375] .

### *Varieties:*

Harlan, de Wit and Rawal (1970) recognize 6 varieties; var. dactylon, aridus, afghanicus, coursii, elegans and polevansii [1375] .

## VERNACULAR NAMES

Cynodon dactylon is the familiar dhub, Bermuda or star grass, universally employed for lawns in the tropics. The diploid form is sometimes known as giant star grass, but this name has also been used for C. aethiopicus and C. nlemfuensis [1362] .

### *Namibia:*

#Hara #gai, describes as a lhom or lawn-forming type of lgâ.b or grass (Sesfontein). Purros and !lKhaoa-a Damara also describe it as !nobo #gai, !nobo = = a bird, possibly a redcrested korhaan [5095] .

The name " giant star grass' has been given to a particularly large Cynodon type which also appears to belong to this species [5482] .

## DISTRIBUTION

### *Angola:*

Occurs in the Bié, Cuando-Cubango, Cunene, Huíla, Luanda and Moxico provinces [5126] .

### *Botswana:*

Occurs in the South East, Kgatleng, Central, Ngamiland and Ghanzi districts [5186] .

### *Lesotho:*

Occurs in the lowlands and mountain zones [5131] .

### *Mozambique:*

Gaza, Manica, Maputo, Nampula, Niassa, Sofala, Tete and Zambezia provinces [5480] .

### *Namibia:*

Widespread and common [5115] .

### *Var. aridus:*

Southern India, extends to Namibia, Hawaii and Arizona. Var. elegans: South Africa south of 13 degrees S. Var. coursii: Madagascar highlands. Var. dactylon: Warm temperate and subtropical lesser extent tropics e.g. Mauritius. Occurs in moderately dry areas e.g. India and Pakistan (Bogdan 1977) [2255] .

### *Var. dactylon:*

A cosmopolitan weed. Var. aridus: Southern India to Israel and the Sinai, and sparingly southwards in dry areas to the Karoo of South Africa. Introduced to Hawaii and Arizona. Var. afghanicus: Afghanistan. Var. coursii: Madagascar. Var. polevansii: Near Barberspan, South Africa. Var. elegans: Africa south of 12 degrees S latitude [1375] .

### *Southern Africa:*

Locally dominant [2182] .

### *Worldwide:*

It is one of the most widespread plant species, occurring throughout the tropics and warm temperate zones of the world, and being found in a wide range of habitats [2837] .

### *Worldwide:*

Widely distributed in Africa and other continents, it is believed to have its centre of origin India. Grows in all areas of tropical and southern Africa [2259] .

### *Zambia:*

Widespread, occurs in all the provinces [5481] .

Reported from southern Pali District, Rajasthan [2162] .

## ORIGIN/DOMESTICATION

According to Wheeler (1950) it originated in Asia, particularly India, and has now become pan-tropical [1375]. *C. dactylon* var. *dactylon* originates probably from Asia. Other varieties are endemic to S. America [2255].

### *Namibia:*

According to Craven (1999) it is an alien and weed but Klaassen (2003) has it as native to the country [5115] [5149].

## DESCRIPTION

### *Habit:*

A mat-forming, variable perennial, spreading by stolons and scaly rhizomes. Stolons branch profusely, rooting at the nodes from which leafy shoots and numerous culms arise. Culms erect, or bent at the base, 8-40 cm, rarely up to 1 m high [2259].

### *Inflorescence:*

A group of 3-7 (rarely 2) slender spikes, arranged digitately in 1 whorl, in robust forms up to 10 spikes and occasionally in 2 whorls. Spikes usually 3-6 cm long, straight or slightly curved, purple, purplish-brown or green. Spikelets; arranged evenly and closely on the rachis, 2-3 mm long, inconspicuously hairy, awnless, 1-flowered, but occasionally with the rudiments of a second floret above the perfect one [2259].

### *Leaves:*

Blue-green or green. Sheath round. Ligule a line of short hairs. Blade smooth or hairy, flat, bluntly pointed [2259].

### *Roots:*

Rapidly-growing root runners [5482].

### *Worldwide:*

Tropical and warm temperate regions throughout the world [1362].

## IDENTIFICATION

For a discussion of the different varieties (12) see Skerman & Riveros 1990 [1375].

### *Southern Africa:*

Easy to recognise because it has; creeping surface stems as well as rhizomes and a strictly digitate inflorescence (like a palm tree) [2259].

### *Southern Africa:*

There are several other grasses with these characters, but it is unlikely that you will confuse any of them with *C. dactylon* except, possibly a) *C. aethiopicus*, Giant Quick-grass. Common quick grass can be distinguished by having normally creeping surface stems as well as underground stems; and by the inflorescence being strictly digitate with more rigid spikes. b) *Digitaria* spp., a few of which can look superficially like *Cynodon* because they may have both a creeping habit and digitate inflorescence. Most of them are considerably larger than *C. dactylon*; but there are exceptions, notably two that are used as lawn grasses i.e. *D. swazilandensis*, Swaziland Finger grass; and the more robust *D. diversinervis*, Richmond Finger grass. Both these species have surface runners only, no creeping rhizomes. The mat-forming *D. longiflora*, which is not cultivated, also has surface runners only, and the inflorescence is made up of 2 or 3 racemes only [2259].

The species of *Cynodon* tend to be rather similar in their ecology. However, it is *C. dactylon* which appears to reach the most arid sites. Other species include *C. plectostachyus*, which is usually much more robust than *C. dactylon*, has very small glumes, and lacks rhizomes, and *aethiopicus*, which is another robust species, usually with the racemes in 2-5 whorls. [2837].

### *Tropical East Africa:*

It is typically a short sward-forming species, but is very variable, and is best recognized by the presence of underground rhizomes [1362].

## FOOD - LEAVES

### *Beverages:*

Food and drink (leaves rich in vitamin C [2182]).

## ANIMAL FOOD - 'ROOTS'

*Roots, sheep:*

Much favoured by sheep who dug it up to find roots (Kessler 1985) [2255] .

## **ANIMAL FOOD - FERTILE PLANT PARTS**

*Inflorescences, game mammals, grazing:*

The grass is grazed in the early flowering stage by kongoni and in the full flowering stage by zebra [388] .

## **ANIMAL FOOD - AERIAL PARTS**

*Leaves, game mammals, grazing:*

In Kenya leafy regrowth is grazed by antelope like kongoni, waterbuck and topi and buffalo [388] .

*Unspecified aerial parts, birds, grazing:*

Excellent grazing for village geese and ducks [1375] .

*Unspecified aerial parts, birds:*

In Georgia (USA) nitrogen fertilised grass is used for pelleting for poultry food [1375] .

*Unspecified aerial parts, game mammals, cattle, goats, grazing:*

Provides excellent grazing for goats, cattle and buffaloes if not trampled too much by these latter heavy beasts [1375] .

*Unspecified aerial parts, grazing:*

Very palatable if kept short in growth and fertilised [1375] .

*Stems, primates:*

The whole plant, stem-meristem, is eaten by baboon (Hall 1962, Altmann & Altmann 1970, Davidge 1978) [2514] .

*Unspecified aerial parts, cattle, grazing:*

Considered important food for cattle, especially in the dry season [5115] .

*Unspecified aerial parts, donkeys, grazing:*

Considered important food for donkeys especially in the dry season [5115] .

*Unspecified aerial parts, fodder:*

The young regrowth is generally an excellent fodder [2837] .

*Unspecified aerial parts, game mammals, grazing:*

Grazed by white rhino, reedbuck, impala and many other wild animals (K.M. Blizard pers.comm.) [2259] .

*Unspecified aerial parts, grazing:*

It can provide good grazing, remaining green in mild winters [2259] .

*Unspecified aerial parts, grazing:*

It is a relatively good pasture grass and can withstand intensive grazing. In areas with mild winter it stays green until late in the season [5117] .

*Unspecified aerial parts, grazing:*

It is generally reported to be much liked by animals and to be grazed wherever it occurs [2837] .

*Grazing, drought season:*

It is a short but valuable drought-resistant grazing grass acceptable to livestock [6671] .

## **SOCIAL USES - 'RELIGIOUS' USES**

*Ritual/religion/magic:*

The grass is used by the Sotho in Basutoland (Lesotho) against sorcery and alone or with other plants as a charm (Phillips 1917) [1340] .

## **MEDICINES**

*Entire plant ex situ, humans:*

A decoction of the entire plant is used in the Phillipines as a pectoral (Guerrero 1921 and Quisumbing 1951) [1340] .

*Entire plant ex situ:*

The plant is used medicinally in India [1340] .

## **MEDICINES - ABNORMALITIES**

*Humans, oedemas, lotions:*

In the Transvaal the Xhosa use a decoction as a lotion for sores and swellings [1340] .

## **MEDICINES - BLOOD SYSTEM DISORDERS**

*Roots, humans, blood, oral ingestion:*

A decoction of the root is a Dutch remedy to purifies the blood (Stent 1927) [1340] [5098] .

## **MEDICINES - CIRCULATORY SYSTEM DISORDERS**

*Leaves, humans, hypertension:*

Infusion of leaves is used against high blood pressure in Mexico [2255] .

*Roots, humans, haemorrhoids:*

In Europe the rhizomes is used as a cure for haemorrhoids [5098] .

## **MEDICINES - DIGESTIVE SYSTEM DISORDERS**

*Humans, stomach, indigestion:*

It is used by the European in the Transvaal (South Africa). For heartburn it is taken bruised and mixed with sodium bicarbonate and other substances [1340] .

*Roots, humans, stomach, indigestion, oral ingestion:*

A decoction of the roots is a Dutch remedy for indigestion (Stent 1927) [2857] .

## **MEDICINES - GENITOURINARY SYSTEM DISORDERS**

*Entire plant ex situ, humans, urination, diuretic, internal application:*

A decoction of the entire plant is used in the Phillipines as a diuretic and pectoral (Guerrero 1921 and Quisumbing 1951) [1340] .

## **MEDICINES - INFECTIONS/INFESTATIONS**

*Roots, humans, fever:*

In Europe the rhizomes is used as a cure for fever [5098] .

## **MEDICINES - INFLAMMATION**

*Roots, humans, urinary tract, inflammation:*

In Europe the rhizomes are used as a soothing remedy for inflammation of the urinary tract [5098] .

## **MEDICINES - INJURIES**

*Humans, wounds, external applications:*

The bruised plant alone is applied as a styptic to wounds [1340] .

*Humans, wounds, external applications:*

Ground with turmeric in some parts of India to apply to bleeding wound [2255] .

*Leaves, humans, wounds, external application:*

As an external application, the squashed foliage is readily applied to fresh wounds in order to stem the flow of blood [5098] .

## **MEDICINES - MUSCULAR-SKELETAL SYSTEM DISORDERS**

*Roots, humans, rheumatism:*

In Europe the rhizomes are used as a soothing remedy for rheumatism [5098] .

## **MEDICINES - RESPIRATORY SYSTEM DISORDERS**

*Roots, humans, congestion:*

In Europe the rhizomes is used as a cure for catarrh [5098] .

## **MEDICINES - SKIN/SUBCUTANEOUS CELLULAR TISSUE DISORDERS**

*Humans, skin, sores, lotions:*

The Xhosa use a decoction as a lotion for sores and swellings [1340] .

*Roots, humans:*

In Europe the rhizomes is used as a cure for skin diseases [5098] .

## **ENVIRONMENTAL USES - EROSION CONTROL**

*Eroded land:*

It has saved untold areas of soil from erosion by wind and water. It is a hardy pioneer which colonizes bare ground and holds and accumulates soil. It help to bind the edges of roads [1375] .

*Ground covers, eroded land:*

Common Quick-grass is a vigorously colonising species that has probably saved countless hectares from soil erosion in Africa [2259] .

*Ground covers, eroded land:*

The grass plays an important role in natural soil erosion control because of its lawn-like habit and is often established in waterways [5117] .

*Ground covers, watercourses:*

The grass plays an important role in natural soil erosion control because of its lawn-like habit and is often established in waterways [5117] .

*Sands, dunes:*

Seedings made in littoral zones of Egypt where it shows promise also for sand dune fixation. Soil binding - especially roadsides and banks but should not be allowed to encroach on cultivated land. In India has been used to stabilize the sides of watercourses [2255] .

*Ground covers, eroded land:*

A valuable binding grass for controlling erosion on denuded lands [6671] .

*Lawns:*

Widely planted as a durable prostrate cover for lawns [6671] .

*Sports grounds:*

Widely planted as a durable prostrate cover for playing fields [6671] .

## **ENVIRONMENTAL USES - ORNAMENTALS**

*Live plant in situ, lawns:*

It is widely used for lawns, but tends to become sparse and brown in long dry seasons although rapidly regenerating from the base when rains start [2837] .

*Live plant in situ, lawns:*

Local strains are widely used as lawn grasses, and suitable varieties have been selected and named [2259] .

*Live plant in situ, lawns:*

Used as a lawn grass throughout East Africa [1362] .

## **NUTRITIONAL VALUE**

*Aerial parts, CP, CF, EE, NFE, ash, SFA, Ca, P:*

For nutritional analyses done in Kenya and Sudan see reference. [2837] .

*Aerial parts, ash, crude protein, ether extract, crude fibre, nitrogen free extract, silica, silica free extract Ca, P, Na, K:*

Six samples taken from September to December during 1962 were analysed. The following results are a summary of the tests presented as ranges (minimum to maximum). Ash 11.19-15.10%, crude protein 9.59-28.34%, ether extract 1.88-2.42%, crude fibre 20.29-30.57%, nitrogen free extract 35.06-45.66%, silica 5.51-6.68%, silica free extract 4.96-8.87%, Ca 0.50-0.99%, P 0.275-0.433%, Na 0.021-0.057%, K 0.82-2.85% [388] .

*Unspecified aerial parts:*

Gives excellent hay, very quickly cured, and if fertilised of excellent nutritive value. Harvesting at 8 weeks increased

dry matter but reduced crude protein in comparison with a four-week cut. It makes good silage, but not of the lactic type when ensiled with 41 kg maize grain per tonne. The pH was 5.0, volatile acid content was only 2-4 % of the dry matter and it had the appearance of haylage [1375] .

*South Africa:*

Grazing value average under natural conditions [5117] .

## TOXICITY/POISONOUS COMPOUNDS

*Aerial parts, hydrocyanic acid:*

Large doses of hydrocyanic acid (prussic acid) cause total ruminal paralysis [1340] .

*Aerial parts, hydrocyanic acid:*

When it is in a wilted condition or after frost it can cause prussic acid (hydrocyanic acid) poisoning of stock [5098] [5116] .

*Aerial parts:*

Most of the *Cynodon dactylon* types are non-toxic but an occasional of HCN poisoning may occur. In the USA frosted Bermuda grass can cause photosensitization. Kidder et al. (1961) recorded 1.10% total oxalic acid in the dry matter but no toxicity [1375] .

Fungus found on dead leaves caused hypersensitivity to sunlight in cattle grazed on the aftermath (Bogdan 1977) [2255] .

## CHEMICAL ANALYSES - MISCELLANEOUS

*Aerial parts, antibiotics:*

Antibiotic tests with extracts of the shoot have proved negative [1340] .

*Aerial parts, cynodin, triticin:*

The plant yields cynodin (allied to asparagin) and triticin [1340] [2182] .

*Aerial parts, hydrocyanic acid:*

*C. dactylon* has been found to yield hydrocyanic acid under suitable conditions [1340] .

*Aerial parts, phagocytic:*

The plant has a high phagocytic index (Broker 1953, Broker 1954) [1340] .

*Unspecified plant parts, vitamin C:*

In India the leaf is found to be rich in vitamin C (Basu et. al. 1947) [1340] .

## ANATOMY

Mestrome sheath cells occur between metaxylem vessel elements and bundle sheath cells (Humphreys 1987) [2255] .

## WEED PROBLEMS CAUSED

*Herbicides:*

Dalapon at 6-12 kg/ha applied to young growth can give a high degree of control. Repeated cultivations will kill the plant, but repeated spraying with herbicides are effective. Spray young, vigorously growing plants with paraquat at 2.8 l/ha of a 200 g AI/l product (e.g. Gramaxone) plus surfactant at 250 ml/200 l of water, using a minimum of 400 ml water per hectare. TCA 2,2,-DPA and glyphosate (Round up) can also be used [1375] .

*Namibia:*

A pest in cultivated fields [5115] .

*Southern Africa:*

Has been reported as weed in more than 80 countries and because of the rhizomes that can be up to 1000 mm deep it is difficult to eradicate [2182] [2255] .

*Southern Africa:*

It can be a serious weed, rapidly invading cultivated lands and difficult to eradicate [2259] [5116] [5117] .

Can be a serious weed of arable crops [6658] .

## CONSTRAINTS - MISCELLANEOUS

*Southern Africa:*

In gardens and agricultural lands it is a weed, which is difficult to eradicate because of its underground runners

(rhizomes) [2259] [5116] .

When it is in a wilted condition or after frost it can cause prussic acid (hydrocyanic acid) poisoning of stock [5098] [5116] .

## TEMPERATURE

Chilling resistant (Lush & Evans 1974) [2255] .

*Frost:*

It frosts but recovers [1375] .

Optimum temperature for growth is 35 degrees Celsius. Grows very slowly at 15 degrees Celsius. Day temperature must exceed 10 degrees Celsius. The minimum temperature regime for growth consists of an eight-hour day at 15 degrees Celsius and a 16-hour night at 5 degrees Celsius [1375] .

Temperatures influences relative root development (Brouwer 1962) [2255] .

## ALTITUDE

*Kenya:*

Sea level upto 7000 ft a.s.l. [5482] .

*Southern Africa:*

1-2000 m [5104] .

*Tropical East Africa:*

0-2000 m [1362] .

## TOPOGRAPHY/SITES

*Africa:*

Pathsides, abandoned cultivation, old cattle herding grounds, lake edges (including somewhat saline and alkaline sites) and maritime grasslands [2837] .

Common in valleys, flats, on gentle slopes around the lakes and in abandoned land after some few years following cultivation. In such sites it frequently forms a dense cover in almost pure stand. In general, this grass forms large colonies over considerable areas, mainly in places where the soil is disturbed by cultivation areas or some other factors such as sedimentation of silt, burrowing animals, etc [5482] .

*Namibia:*

Occurs in damp places, especially in rivers and below dams [5116] .

*South Africa:*

Occurs in disturbed areas such as roadsides, gardens and cultivated lands. Often found in moist sites along rivers and below the embankments of dams [5117] .

*Southern Africa:*

Common as a pioneer on roadsides, overgrazed and trampled areas, ant hills and other disturbed localities with a high level of nitrogen [2259] .

*Tropical East Africa:*

Roadsides, old farmland, and weedy or trodden places around habitations [1362] .

Abundant where cattle congregate [6658] .

An early secondary invader of heavily disturbed ground and locally abundant in farms and fallows, paths and roadsides, trampled overgrazed perimeters of villages and kraals [6671] .

## DRAINAGE

*Namibia:*

Occurs in damp places, especially in rivers and below dams [5116] .

*South Africa:*

Often found in moist sites along rivers and below the embankments of dams [5117] .

## SOILS

*Salinity:*

Can tolerate 8 (dS m<sup>-1</sup>) salinity (Lamprey 1980) [2255] .



*Namibia:*

In Kaokoland found on alluvial silt [5091] .

*Salinity:*

It is able to shunt its photosynthate from the tops to the roots to enable it to survive under saline conditions [1375] .

*Salinity:*

There are considerable differences in the salinity tolerance of 6 sections and 3 interspecific hybrids (Youngner & Lunt 1967). See also Ackerson & Younger 1975 [2255] .

There varieties adapted for a wide range of soils. Coastal Bermuda prefers well-drained, fertile soils, especially heavier clay and silt soils not subject to flooding, well supplied with lime and high-nitrogen mixed fertilizers. lawn couch grass is most frequently grown for sale in sandy loams easy to dig and rebuild [1375] .

*pH:*

Only extremes of pH had grossly adverse effects on the growth [2255] .

*Southern Africa:*

Favours ordinary dry land conditions on most soil types, especially those that are fertile [2259] .

*Southern Africa:*

Occurs on almost all soil types, but has a preference for soils with a high nitrogen content [2259] [5117] .

More suitable for soils of high fertility [6658] .

## VEGETATION

*Namibia:*

A pioneer which may develop into a climax grass on alkaline soil [5116] .

Found in different types of grassland [5482] .

*South Africa:*

Grasslands, Savanna, Nama-Karoo and Fynbos [5117] .

*Southern Africa:*

Common as a pioneer on roadsides, overgrazed and trampled areas, ant hills and other disturbed localities with a high level of nitrogen [5119] .

*Southern Africa:*

Fynbos, Savanna, Grassland, Nama-Karoo and Desert [2182] .

Associated with many other weedy species including *Chloris pilosa*, *Eleusine indica*, *Eragrostis* spp., *Digitaria* spp., *Aristida* spp., *Sporobolus pyramidalis*, etc [6671] .

Throughout the coastal and interior savannas [6671] .

## ENVIRONMENTAL FACTORS - MISCELLANEOUS

*Africa:*

It is a drought resistant species, able to continue some growth at the height of the dry season, but this ability varies between strains [2837] .

*Africa:*

This grass is able to withstand high grazing pressure because the creeping habit of its underground rhizomes means that a high portion of its biomass constitutes ungrazeable reserves [5639] .

*Drought tolerance:*

The rhizomes survive drought well. Coastal Bermuda grass has proved very drought resistant in Georgia, United States [1375] .

*Flooding:*

In Bagladesh couch grass survives the annual flooding of the Ganges-Brahmaputra rivers to a depth of 6 m or more for several weeks [1375] .

*Tolerance of flooding:*

Root growth was effected [2255] .

*South Africa:*

Increase IIb - species that increase with moderate overstocking [5117] .

*Southern Africa:*

Common as a pioneer on roadsides, overgrazed and trampled areas, ant hills and other disturbed localities with a high level of nitrogen [2259] .

*Southern Africa:*

Usually dies out under shade [2259] .

## **POLLINATION**

Cross pollinated [[1653](#)] .

## **FLOWERING/FRUITING/SEED SET**

*Flowering, South Africa:*

September to March [[5117](#)] .

*Flowering, southern Africa:*

September to May [[2182](#)] .

## **DISPERSAL**

By water, cattle and sheep and also in packing material used in ship's ballast [[2255](#)] .

## **GERMINATION**

Follows removal of covering structures. The incorporation of gibberellic acid in the practice of hydroseeding *C. dactylon* is recommended by Young et al. 1977 since this stimulates germination. Alternation of 10/40 degrees Celsius favoured germination (Young et al. 1977) [[2255](#)] .

Seed can germinate after as much as 50 days of submergence [[2255](#)] .

## **SEEDLING DEVELOPMENT**

It grows fast vigorously once established [[1375](#)] .

Once in occupation it gives way to other grasses only very slowly. It spreads extremely quickly by rooting runners which may grow at a rate of over 3 inches a day [[5482](#)] .

## **CYTOLOGY**

It is normally tetraploid ( $2n = 36$ ). A more robust diploid ( $2n = 18$ ) form has been separated as *C. dactylon* var. *aridus* Harlan & de Wet. The diploid is sometimes known as giant star grass, but this name has also been used for *C. aethiopicus* and *C. nlemfuensis* [[1362](#)] .

## **HYBRIDISATION**

Burton 1949 applied hybridization for developing the grass suitable for grazing and forage and reducing the affect on agriculture. (Cv. coastal, midland, suwannee and coastacross 1 were used) [[2255](#)] .

*C. dactylon* cv. Coastal a useful hybrid (Burton 1947) [[2255](#)] .

## **GENETICS**

Var. *dactylon* 4X, var. *aridus* 2X, var. *afghanicus* 2X, 4X, var. *coursii* 4X, var. *elegans* 4X and var. *polevansii* 4X [[1375](#)] .

## **NEMATODE PESTS**

*Root knot:*

Root knot nematodes attack common couch grass in sandy soils. Coastal Bermuda grass is more resistant [[1375](#)] .

## **FUNGAL DISEASES**

A host for many fungi [[2182](#)] .

*Helminthosporium:*

Attacked by *Helminthosporium* leaf disease in some areas [[1375](#)] .

## VIRAL DISEASES

A host for many viruses [2182] .

## CULTIVATION

### *Africa:*

The species has already been the subject of considerable research and selection, although mostly with a view to the production of large leafy highly productive forms rather than the selection of strains highly resistant to drought, salinity and alkalinity [2837] .

### *Mixtures:*

*C. dactylon* effectively suppressed all legumes (Hopkinson 1970). Extracts may inhibit germination of *Lactuca sativa*, but germinated after washing (Chou & Young 1975) [2255] .

### *Mixtures:*

Coastal Bermuda combines with lespedeza and white clover well. For northeast Thailand it is combined with *Stylosanthes humilis* [1375] .

### *Mixtures:*

*Trifolium incarnatum*, *Viola villosa*, *Trifolium repens*, *Arachis glabrata* (Florida) [2255] .

*Cynodon dactylon* is very variable and occurs in several natural strains which differ widely in size, colour (from bright yellowish-green to dull bluish-green), texture of stems and leaves, size of spikes, etc. These forms are probably of different grazing value but in general the grass is an excellent fodder, particularly in more or less dry parts of the country. Most varieties of the grass are poor seeders and propagation is usually affected by means of creeping stems [5482] .

This giant form of *Cynodon* sp. is found mainly in the moist, warmer region towards Lake Victoria. Seeding qualities are relatively good, but experiments have shown a large degree of palatability [5482] .

### *South Africa:*

It is important as a cultivated pasture and well known cultivars such as 'NK37' and 'Bermuda' have been selected. It is difficult to control mechanically and it constitutes a weed problem in cultivated lands [5117] .

## SEED WEIGHT

4 489 000 seeds per kg [1375] .

Seed is produced abundantly; approximately 2 200 000 seeds per kg, thus 0.5 kg/ha for 100 seeds per m<sup>2</sup> [2837] .

## PROPAGATION FROM SEED

*C. dactylon* spreads quickly by rhizomes and stolons, and less obviously by seed. Seed treatment:

Treat with lindane dust if seed-harvesting ants are about. Land preparation: A very well-prepared, fine, weed-free seed-bed is needed. Sowing methods: It is usually sown as turfs or as seed for lawns Sowing depth: It is surface sown and rolled in. Sowing time and rate: Sow in summer at 9-11 kg/ha [1375] .

## PROPAGATION - VEGETATIVE

### *Africa:*

Although seed is produced abundantly, pastures are usually produced using vegetative material. The rhizomes and stolon can be cut into short lengths, scattered over the area to be planted, and then disced lightly into the soil. For large scale operations, the rhizomes can first be ploughed out, shaken clear of soil by hand, chopped in a chaff-cutter or similar instrument, and then scattered mechanically followed by discing. Irrigation helps establishment but the rhizomes have a good deal of drought resistance and the plants spread rapidly after establishment. However, the pasture should be given plenty of time for establishment before grazing, as young spreading stolons are easily uprooted by grazing cattle [2837] .

*C. dactylon* spreads quickly by rhizomes and stolons, and less obviously by seed [1375] .

### *Establishment:*

It planted by turf, rough ploughing will be sufficient [1375] .

Established from cuttings [6658] .

## 'CROP' MANAGEMENT

### *Burning:*

Stimulates inflorescence differentiation and seed production [2255] .

### *Fertiliser:*

N is the most needed nutrient, less N applied in arid areas [1653] .

### *Fertiliser:*

Requirements for potassium not very high. Did not benefit from sodium fertiliser. Good response to nitrogen (Humphreys 1987) [2255] .

### *Fertilisers:*

A good basic fertiliser with additional levels of nitrogen according to purpose. With Coastal Bermuda grass the efficiency of nitrogen utilisation begins to decline with 220 kg/ha for hay production and 450 kg/ha for protein production. Application of farmyard manure and sulphate of ammonia to mixed pasture at Kongwa, Tanzania, caused an invasion by *C. dactylon* and suppression of *Chloris gayana* and *Cenchrus ciliaris*. Weeding: It suppresses weeds well if kept mown or grazed closely and fertilised. Grazing: Graze close to keep the feeding value high. Renovating: Renovate by ploughing or discing when sod-bound [1375] .

Increased under frequent rolling. Plants branch freely at ground level - yield best at low cutting heights (Humphreys 1987). Maintained high levels of non structural carbohydrate under frequent defoliation, unless cut weekly to ground level (Weinmann & Goldsmith 1949) [2255] .

## **HARVESTING**

Harvesting at 8 weeks increased dry matter but reduced crude protein in comparison with a four-week cut [1375] .

### *Seed:*

In the USA two seed harvests of Coastal Bermuda are made - July and November. It is mowed into windrows, picked up and threshed by combines and subsequently cleared [1375] .

## **YIELDS**

### *Georgia:*

Coastal Bermuda grass receiving 550 kg/ha of complete 4-8-4 fertiliser plus 520 kg/ha of nitrate of soda produced 6 tonnes of air-dried hay in four cuttings [2255] .

### *Queensland:*

A range of dry-matter yields of 1 000 -3 000 kg/ha per month in summer and 1 200 kg in winter were recorded at Samford, from 20 accessions [1375] .

### *Seeds:*

Seed is produced abundantly; approximately 2 200 000 seeds per kg, thus 0.5 kg/ha for 100 seeds per square meter [2837] .

### *Yield stability:*

Cv. Suwannee and cv. Coastal have good yield stabilities, 1.6 and 2.0 respectively for a wet year followed by a dry one. Cv Coastal had greater absolute yields and greater water use efficiency (Burton et al. 1957) [2255] .

## **TRADE**

### *Minimum germination and quality required for commercial sale:*

60% Germinable seed, 97% purity (Queensland). Germinate at 20-30 degrees Celsius, moistened with KNO<sub>3</sub> solution [1375] .

### *Morocco:*

Exploring expedition sent to explore plant resources of Morocco found that it was worth while to try to export this plant to France (Feinbrun & Zohary 1930) [2255] .

## **FIELD TRIALS**

A team of scientist at Tifton, Ga., has developed a new hybrid Bermuda grass, that is so nutritious, that, as cattle feed it could add millions of pounds of beef a year to the market place. Cattle eating Tifton 44 have averaged daily weight gains that are 10% higher than beef gains on coastal Bermuda grass, the most widely used productive pasture grass in the south. Tifton 44 is more winter hardy than coastal and can be grow throughout a 500 mile strip from South Atlantic States to central Texas [2255] .

### *Yemen Arab Republic:*

Tested in montane plains of YAR, proved a highly successful plant, much favoured by sheep who dug it up to find roots (Kessler 1985) [2255] [2963] .

## SUMMARY EVALUATION/POTENTIAL

*Southern Africa:*

Is recommended for the protection of water-ways [2259] [5117] .

## RESEARCH NEEDS

The developing of non-rhizomatous varieties for dryland pasture seeding in N. Africa, M. and N East. Since it can be more easily eradicated and will not become a weed on land used for rotation pastures [2255] .

## SEED/GENE BANK SOURCES

*Kenya:*

75 Samples in Kenya (National Agricultural Research Centre) [2837] .

## ACKNOWLEDGEMENTS AND DATASHEET PROGRESS

Updated for Southern Africa by E. Irish; checked by C. Mannheimer; Sepasal Namibia, National Botanical Research Institute, May 2005 .

A geography check has been carried out for Coral Sea Islands Territory (JRA 15.11.95). .

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