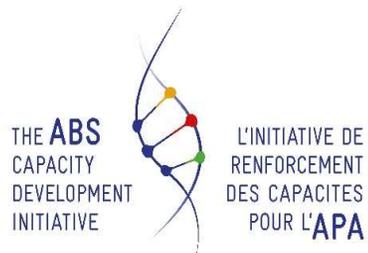


# Compilation of key conservation, ABS and economic data on 13 bio-trade species and additional information

Done by SAEOPA

KM Swanepoel & W du Toit

June-July 2020



The ABS Initiative is funded by



and implemented by



# Scope of work and deliverables

- The objective: Supporting the ABioSA programme to compile a summary document with the key conservation, ABS and economic data (including support documents mentioned in the summary document) of the 13 species within South Africa and obtain additional Marula nut information from their members based on the template.
- Specie data compilation:
  - These value chains and products are supported by ABioSA and some other meso organisations in various formats, hence the need to have access to up-to-date and consolidated data on these species.
  - Although the information within the value chains of these species are plentiful, it is unfortunately fragmented, with analysed and aggregated data being scarce.
  - Private and public decision-makers in the biotrade sector find the information in overload which leads to a reduction in decision quality.
- ABioSA is committed to provide accurate analysed data and information through its project activities to contribute towards changing this situation. Annex : Current species spread sheet.

# Data sheet on 13 species assigned by GIZ - ABioSA

- Aloe (*Aloe ferox*)
- Baobab (*Adansonia digitata*)
- Buchu (*Agathosma spp.*)
- Cape chamomile (*Eriocephalus spp.*)
- Imphepho (*Helichrysum spp.*)
- Marula (*Sclerocarya birrea*)
- Honeybush (*Cyclopia spp.*)
- Kalahari melon (*Citrullus lanatus*)
- Rooibos (*Aspalanthus linearis*)
- Rose geranium (*Pelargonium var Rose*)
- Wild ginger (*Siphononclilus aethiopicus*)
- Umsuzwane (*Lippia javanica*)
- Lanyana, Lengana, Mhlonyane, Umhlonyane, Wilde-als (*Artemisia afra*)



- Data gathered on 13 species in spreadsheet
  - Internet searches where own data were outdated and needed verifying
  - Emails, WhatsApps and personal calls
- Additional findings
  - Summary provided on research and development
  - Import, export and re-export information
  - Informal trade figures
- Recommendations



Available online at [www.sciencedirect.com](http://www.sciencedirect.com)



South African Journal of Botany 75 (2009) 185–195

SOUTH AFRICAN  
JOURNAL OF BOTANY

[www.elsevier.com/locate/sajb](http://www.elsevier.com/locate/sajb)

Review

*Artemisia afra*: A potential flagship for African medicinal plants?

N.Q. Liu, F. Van der Kooy\*, R. Verpoorte

Division of Pharmacognosy, Section of Metabolomics, Institute of Biology, Leiden University, PO Box 9502, 2300RA Leiden, The Netherlands

Received 11 July 2008; received in revised form 4 November 2008; accepted 6 November 2008



*Artemisia afra*  
added to the list



# Four focus areas to be filled per specie

- Sustainable use and conservation

Non-detrimental finding, biodiversity management plan, resource assessment, harvesting guidelines and climate adaption

- Access and benefit sharing

Number and type of permits, TK holders, ABS, training engagement, prior informed consent, material transfer agreement, bio-cultural community protocol

- Economic information

Cultivation and harvesting status, number of producers, volumes of products, associations and contacts, donors, sector development plans, region of production

- Research and development database

Level of research, distribution and chemical analysis, commercialization and value adding, monographs, standards, branding



**SAEOPA**  
Southern African Essential  
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# Sustainable use and conservation

Some species well developed, but most underdeveloped

Species	Sustainable use and conservation									Climate change adaptation
	Non-detrimental Finding (NDF)	Biodiversity Management Plan (BMP)	Resource assessment		Stages of use (national/ regional over use)	Harvesting guidelines				
			Yes /No	By whom & is it available?		Yes /No	What year?	Current working groups?	By whom & is it available?	
<i>Aloe ferox</i>	Yes (DEFF)	Yes (GIZ, draft)	Yes	SANBI Yes	National (monitored by the Aloe Council of SA)	Yes	2013	Yes (Eastern Cape)	SAEOPA Yes	Yes (SANBI)
Marula	No	Yes (IDC)	Yes	Yes UJ & Grahamstown Univ	National	Yes	2010	No	IDC	Yes
Baobab	Yes EcoProducts	Yes	Yes	Sarah Venter	National and regional	Yes	2012	Yes (SADC)	African Baobab Alliance SAEOPA	Yes
Kalahari melon	No	Yes	No	N/A	National and regional	Yes	2013	No	N/A	Yes
Rooibos	Yes	Yes	Yes	SA Rooibos Council	National	Yes	2007	Yes	South African Rooibos Council	Sensitive
Buchu	Yes	Yes	Yes	Buchu forum	National	Yes	2011	Yes	DALRRD	No
Wild ginger	Yes	Yes	Yes	IPIUF	Regional	Yes	2014	Yes	DALRRD	Yes
Rose geranium	Yes	Yes	Yes	SAEOPA	Regional	Yes	2014	Yes	DALRRD	Yes
<i>Lippia javanica</i>	Yes	Yes	No	N/A	Regional	Yes (SAEOPA)	2016	Yes	DALRRD	Yes
Cape chamomile	Yes	Yes	No	N/A	National	Yes (SAEOPA)	2013	Yes	DALRRD	No
<i>Helichrysum</i>	Yes	Yes	No	N/A	Regional	Yes (SAEOPA)	2012	Yes	DALRRD	Yes
Honeybush	Yes	Yes (Albert Ackhurst)	Yes	SA Honeybush Association	National	Yes (Albert Ackhurst)	2014	Yes	DALRRD	Yes (Albert Ackhurst)
<i>Artemisia</i>	No	No	No	N/A	Regional	Yes	2012	No	N/A	Unsure





environmental affairs

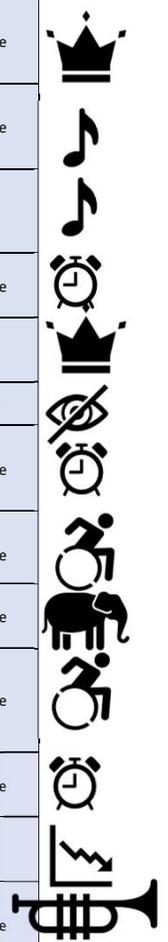
Department:  
Environmental Affairs  
REPUBLIC OF SOUTH AFRICA

# Access and Benefit sharing

mostly lacking  
few species done



Species	Access and benefit sharing											
	Number of permits estimated	Biotrade, bio-prospecting integrated	IK/TK holders identified	BSA benefit sharing agreement in place	Training/engagement					Prior Informed Consent (PIC)	Material Transfer Agreement (MAT)	Bio-cultural Community Protocol (BCP)
					ABS	Contract	Negotiation	Industry/ value chain	Conservation / sustainable use engagement			
<i>Aloe ferox</i>	30 -(40) (DEFF)	All 3	Not finalised yet	Unknown	ABioSA	ABioSA	BIA	BIA	BIA	Unsure	Unsure	Unsure
Marula	2 (4 in pipeline) {11}	Biotrade	Not finalised yet	>20 possibly Limpopo	ABioSA	ABioSA	BIA	BIA	BIA	Unsure	Unsure	Unsure
Baobab	1	Biotrade	KhoiSan	Yes	No	No	No	No	Yes	Unsure	Yes	Yes
Kalahari melon	2	All 3	Yes KhoiSan	Yes	No	No	No	No	No	Unsure	Yes	Unsure
Rooibos	13	All 3	Yes KhoiSan	Yes	SA Rooibos Council & SKA Attorneys	Yes	Yes extensively	Yes	Yes	Yes	Yes	Yes
Buchu	6 [13]	All 3	Khoi-khoi & San	Yes	ABioSA	ABioSA	BIA	BIA	BIA	Unsure	Not finalised yet	Busy
Wild ginger	5	All 3	Not finalised yet	Not known	ABioSA	No	No	Yes	Yes	Unsure	No	Unsure
Rose geranium	0	All 3	Not finalised yet	Global crop status	ABioSA	No	No	Yes	N/A	Unsure	No	Unsure
<i>Lippia javanica</i>	1	All 3	Not finalised yet	Some	ABioSA	No	No	Somewhat	No	Unsure	Yes	Unsure
Cape chamomile	2	All 3	Not finalised yet	No	ABioSA	No	No	No	No	Unsure	No	Unsure
<i>Helichrysum</i>	2	All 3	Not finalised yet	No	ABioSA	No	No	Somewhat	No	Unsure	No	Unsure
Honeybush	4	All 3	KhoiSan & wildharv com	Yes	SA Honeybush Association	Yes	Yes extensively	Yes	Yes	Yes	Yes	Yes
<i>Artemisia</i>	2	Unsure	Unsure	No	No	No	No	Yes	Unsure	No	No	Unsure



# Economic information production

small volumes in most while actual production figures low and not generally shared



Species	Economic											
	On national list for sustainable harvesting	On national list for cultivation	Cultivated privately, & by whom	Estimated number of existing producers	Volumes estimated average (kg/ton per annum)	Volumes for re-exports from neighbouring countries	Existing association		Other donor organisations working on the species?	Sector development plan	Key region(s) in RSA	Key region
							Name of association	Contact name & cell				
<i>Aloe ferox</i>	Yes	No	Yes few entrepreneurs	>20	300 t	Unknown	Yes Aloe Council of SA	Prof B van Wyk 082 800 4134 or Tertius Cloete	No	ABioSA	Western Cape Eastern Cape	South Africa
Marula	Yes	No	Experimental sites & IDC programme since April 2020	<50	160 kg	Namibia and Zimbabwe 200T	SAEOPA	Marula Guys Steyn Potgieter +26 814 013 376	No	ABioSA	Limpopo	SADC
Baobab	Yes	No	Yes Sarah Venter's initiative	<20	5	Unsure	SAEOPA	Dr Sarah Venter 082 374 9534	No	ABioSA	Limpopo	SADC
Kalahari melon	No	No	Yes by producers commercialising it as a crop	<20	4	Zimbabwe 2T-5T	SAEOPA	Obed Nelovholwe 082 549 1454	No	ABioSA	All provinces	SADC
Rooibos	Yes	No	Yes by commercial producers	>500	14 000-30 000	Requested SARC	SA Rooibos council	Marthane Swart 084 511 8937	No	ABioSA	Western Cape	Western Cape
Buchu	Yes	Yes	Yes extensively by producers	<50	<500 t	None	Buchu forum	Ulrich Feiter 082 375 0533	No	ABioSA	Western Cape	Western Cape
Wild ginger	No	No	Yes experimental & commercial	<20	Unsure	Swaziland and Mozambique. Volumes not known	none	Gill Banda 082 921 2931	No	ABioSA	KZN, Mpumalanga, Limpopo	SADC
Rose geranium	No	No	Yes exclusively	>20	<200 kg	Rwanda 50kg	SAEOPA	Karen Swanepoel 082 081 6077	No	ABioSA	E Cape, W Cape, KZN, Mpumalanga, Limpopo	RSA
<i>Lippia javanica</i>	No	Yes	Yes experimental & commercial	<20	<100 kg	Unsure	SAEOPA	Karen Swanepoel 082 081 6077	No	ABioSA	All provinces except W Cape	SADC
Cape chamomile	No	No	Exclusively	<10	<50 kg	None	SAEOPA	Werner Bester 082 334 3324	No		Western and Eastern Cape, Freestate	Western and Eastern Cape, Freestate
<i>Helichrysum</i>	No	Yes	Small-scale cultivation	<10	<100 kg	None	SAEOPA	Herbs-Aplenty 082 338 5550	No		All provinces	SA
Honeybush	Yes	Yes	Yes by producers commercializing it as a crop	<20	290 ha 130 t	Requested SAHTA	SA Honeybush Association	Albert Ackhurst 083 733 2271	No	ABioSA	WC & EC	Western Cape
<i>Artemisia</i>	No	No	Yes by commercial producers	<10	Dried <100 kg Oil <100 kg	Botswana volumes unknown	SAEOPA	Flip Minnaar 083 303 8253 Elliot Ndlovu 072 379 5367	No, but Univ Lesotho intense researching	All possible	Most provinces	SADC

# Research and development

a lot is done,  
not well known,  
not well applied in  
value adding



Species	Research and development database compiled by SAEOPA from IPUF and SA Botanists' information								
	Extensively	Some	Limited	Distribution, hybridizing, chemical composition & properties	Commercialized, value added	Chemistry	Properties	Monograph	Standard
<i>Aloe ferox</i>	Yes			Yes	Yes	Yes	Yes	Yes	Yes
Marula	Yes			Yes	Yes	Yes	Yes	Yes	Listed
Baobab		Yes		Yes	Yes	Yes	Yes	Yes	In process
Kalahari melon			Yes		Yes	Yes	Yes		Listed
Rooibos	Yes			Yes	Yes	Yes	Yes	Yes	Agricultural Product Standards Act, 1990 (Act 119 of 1990)
Buchu	Yes			Yes	Yes	Yes	Yes	Yes	Listed
Wild ginger		Yes		Yes	Yes	Yes	Yes	Yes	No
Rose geranium	Yes			Yes	Yes	Yes	Yes		In process
<i>Lippia javanica</i>			Yes	Yes		Yes	Yes	Yes	Listed
Cape chamomile			Yes	Yes		Yes	Yes		Listed
<i>Helichrysum</i>	Yes	Yes		Yes		Yes	Yes		Listed
Honeybush	Yes			Yes	Yes	Yes	Yes		Agriculture product standard
<i>Artemisia</i>	Yes			Yes	Yes	Yes	Yes	Yes	No

Branding!



Branded



EPA



# CONTINENTAL DIVERSITY OF COMMERCIALISED MEDICINAL PLANTS



Reason for low % commercialized, probably no documented information.

Species numbers from Govaerts 2001, Taxon 50, 1085

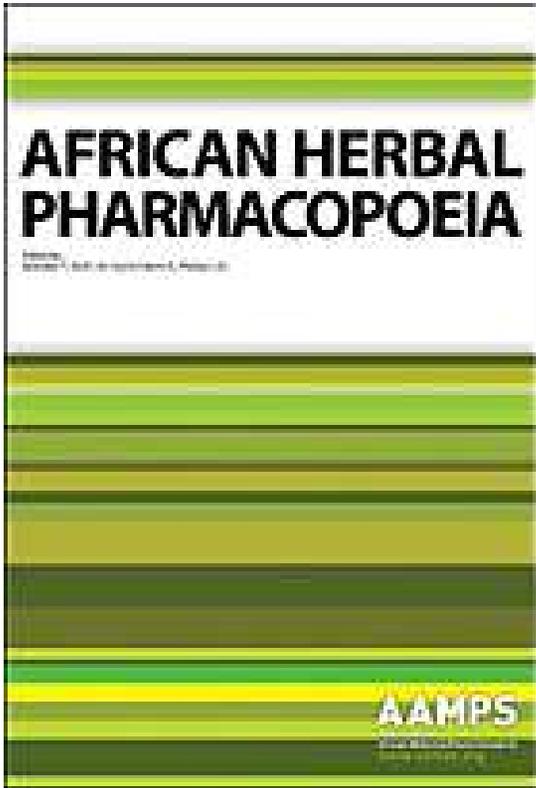


# What % of spp commercialized?

	plant spp	#commerc	% total	%commerc
Africa	74000	83	21.1	7.6
Australia	26000	14	7.4	1.3
South America	115000	64	32.9	5.8
Asia	151000	434	43.1	39.5
Europe	13600	336	3.9	30.6

Reason for low % commercialized, probably no documented information.

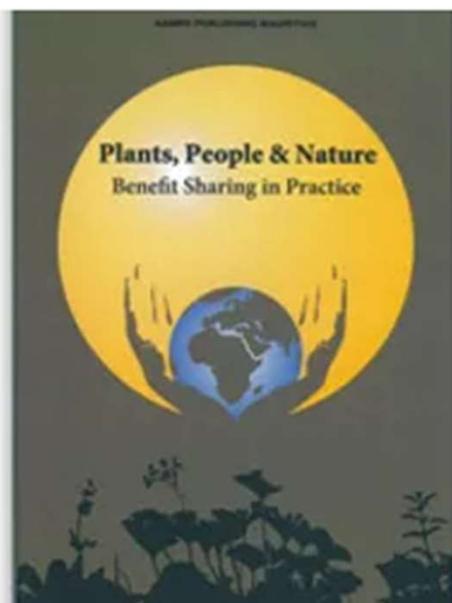
Species numbers from Govaerts 2001, Taxon 50, 1085



# AFRICAN HERBAL PHARMACOPOEIA

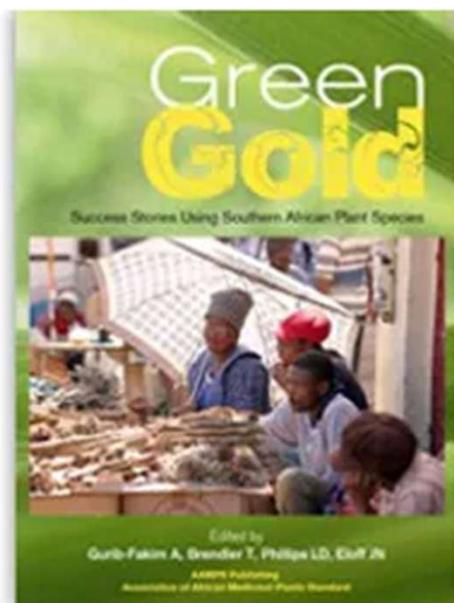
- Lack of suitable technical specifications and quality control standards for African medicinal plants and herbal medicines is considered to be a major barrier to regional and international trade and an important reason why traditional medicine has not been widely integrated into African primary health care.
- AAMPS (Association for African Medicinal Plants Standards) is a non-profit company registered in Mauritius dedicated to the development of quality control and quality assurance standards for African medicinal plants and herbal products.
- The African Herbal pharmacopoeia currently provides comprehensive information on fifty-two important African medicinal plants.
- Currently more species added





## People, Plants and Nature

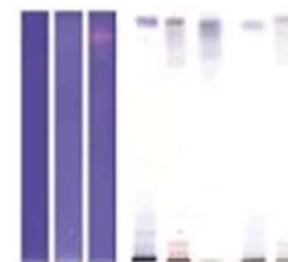
22 case studies of benefit sharing in practice, with regards to medicinal plants.



## Green Gold

A book about 10 medicinal plants that have been successfully commercialised in the SADEC region.

4 on a dry weight basis).  
 stems of *disophrenol* (= at 40% of the total oil is *A. benalua* (more or less and hybrids). The level of *n.A. bealua* but high (ca. terpinen-4-ol containing mixture for the characteristic 3 flavour of buchu oil Hinz et al., 1996).



Chromatogram of acetone extract separated by GC and ESI-MS from left to right and visualized under UV and by using the vanillin and anisaldehyde spray reagent.

oids, especially dimeric  
 n; also claimed to have 7-digluconide and rutin).  
 literary references giving 3 composition of buchu essence of dimeric as the & Bisset, 2000) seems to at paper detailing quality *acta* tablets (El-Shafie & retic effects are attributed 1 (Wichtl & Bisset, 2000); *lupin terpinen-4-ol* (also 8).

### NIR Spectroscopy



oids and resins.



## Plant monographs

Individual monographs





# Monograph *Siphonochilus aethiopicus*

## SIPHONOCHILUS AETHIOPICUS RHIZOMA

### Definition

Siphonochilus Aethiopicus Rhizoma consists of the fresh or dried sliced rhizome of *Siphonochilus aethiopicus* (Schweinf.) B. L. Burt (Zingiberaceae).

### Synonyms

*Kaempferia aethiopica* (Schweinf.) Benth.  
*Kaempferia ethiopia* J. M. Wood  
**Vernacular names**  
Indungulo, isiphepho (Z).

### Description

#### Macroscopical<sup>1,2</sup>



Figure 1a: Live plant



Figure 1b: Fresh rhizome

<sup>1</sup> Kiew, K. Y. (1980). Taxonomic studies in the genus *Kaempferia* (Zingiberaceae). *Notes of the Royal Botanic Garden (Edinburgh)* 38(1): 1-12.  
<sup>2</sup> Pooley, E. (1996). A field guide to the wild flowers of KwaZulu-Natal and the eastern region. Natal Flora Publications Trust, Durban.

Deciduous aromatic rhizomatous plants, bisexual or female, to 1m high; leaves 30-400 x 50-90mm, glabrous; flowers (Oct-Feb) 2-6, faintly scented, borne just above ground level in inflorescences separate from the leaf shoot, white to bright pink with yellow markings on lip; corolla tube white, 30-40mm long; tepal lobes 60-80mm wide.

### Microscopical

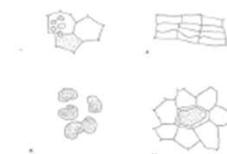


Figure 3: microscopical features

Characteristic features are: pale golden brown cork tissue, the suberised cell walls staining with Sudan IV (2); thin-walled parenchyma cells of the central stele (1) containing abundant starch grains; the latter are oval or kidney-shaped (3), bright yellow-brown oleoresin cells scattered throughout the parenchyma (4); the absence of fibres, tannin and lignified tissue.

### Crude drug

Collected as required or found in the marketplace as light brown-but fleshy rhizomes, sometimes with roots attached; cone-shaped with transverse ring markings; similar in colour to commercial ginger (*Zingiber officinale*) but lacking the pungency of the latter; a distinct cambium visible when freshly cut; fracture crisp; odour scented aromatic.

### Geographical distribution

Formerly rare in forests of KwaZulu-Natal, Mpumalanga, Northern Province and Swaziland; now almost extinct in the wild in

South Africa, but preserved in cultivation; propagated also by tissue culture.



Figure 4: distribution map

### Quality standards

#### Identity tests

Thin layer chromatography on silica gel using as solvent a mixture of toluene:diethyl ether:1.75M acetic acid (1:1:1). Reference compound cineole (0.1% in chloroform). Method according to Appendix 2a. R<sub>f</sub> values of major compounds: 0.34 (grey-mauve); 0.38 (grey-mauve); 0.49 (grey-mauve); 0.57 (grey-mauve); 0.76 (tangerine); cineole: 0.79 (blue-purple)

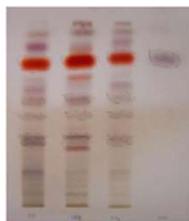


Figure 5: TLC plate

HPLC on C<sub>18</sub> column, method according to Appendix 2b.

#### Major compounds:

Methanol extract:  
Retention times (mins): 7.31; 8.04, 8.48, 8.60

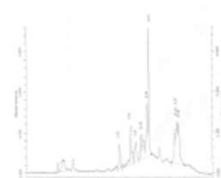


Figure 6: HPLC spectrum

Ethanol (70%) soluble extractive value: not less than 1.7% (range: 1.70-3.06%), determined according to the method of the BHP, using 15g fresh material extracted with 100ml 70% ethanol, taking 25ml aliquots)

Volatile oil content: not < 0.33%

#### Purity tests

#### Assay

Not yet available

#### Major chemical constituents

Little is known of the secondary chemistry of this species. A report of the volatile oil composition of an unidentified *Kaempferia* (now *Siphonochilus*) species appeared in 1915<sup>3</sup> and ongoing work has identified α-terpineol and a sesquiterpene as constituents<sup>4</sup> of the oil in *S. aethiopicus* rhizome.

<sup>3</sup> Goulding, E. et al. (1915). *Journal of the Chemical Society* 107: 314.  
<sup>4</sup> Holzapfel, C.W. et al. (in prep). Chemotaxonomic studies in the genus *Siphonochilus*.

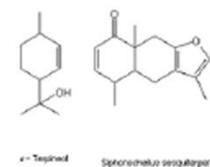


Figure 7: chemical constituents

#### Dosage forms

A piece of fresh rhizome is chewed.

#### Medicinal uses

Treatment of cough, cold, sinusitis, malaria, menstrual pain.<sup>5,6,7</sup>

#### Pharmacology/bioactivity

No *in vitro* antimicrobial activity of aqueous extracts of *Siphonochilus aethiopicus* against *Pseudomonas aeruginosa*, *Candida albicans*, *Staphylococcus aureus* or *Mycobacterium smegmatis* was observed. In the concentrations used for disc assays in our laboratories.

The decongestant and antimicrobial activity of many essential oils probably largely accounts for the popularity of this species as a decongestant and antibiotic. Preliminary work has demonstrated prostaglandin-inhibitory (COX-1 assay) activity for ethanolic extracts of *S. aethiopicus* tuber and leaf<sup>8</sup>.

#### Contraindications

None known.

#### Adverse reactions

None recorded

<sup>5</sup> Lindsay, K., Jgwre, A.K., Raidoo, D.M. and van Soelen, J. (1995). Screening of plants used by Southern African traditional healers in the treatment of rhinosinorhoea for prostaglandin-synthesis inhibitors and uterine relaxing activity. *Journal of Ethnopharmacology* 64: 9-14.

### Precautions

No special precautions

### Dosage

To be determined



# Brochure of *Helichrysum*



agriculture,  
forestry & fisheries

Department:  
Agriculture, Forestry and Fisheries  
REPUBLIC OF SOUTH AFRICA

smell of keigoed is stimulating and helpful for insomnia. The Xhosa used the leaves and flowers as bedding, hence the name "keigoed", translated as "bedding stuff". A pleasant and effective insect repellent against flies and mosquitoes can be made by burning a mixture of *Helichrysum odoratissimum* and *Asteriscus alba* leaves.

#### References

Van Wyk, B.-E., Van Oudshoorn, B. & Seelinger, N. 1997. *Medicinal plants of South Africa*. 1st edition. Pretoria: Sinauer Publications.  
Van Wyk, B.-E., Van Oudshoorn, B. & Seelinger, N. 2006. *Medicinal plants of South Africa*. Revised edition. Pretoria: Sinauer Publications.  
Van Wyk, B.-E., & Van, M. 2006. *Medicinal plants of the world*. Pretoria: Sinauer Publications.

#### Further information can be obtained from:

Department of Agriculture, Forestry and Fisheries  
Private Bag 1225  
PRETORIA 0001

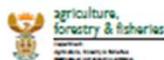
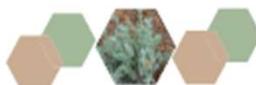
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Private Bag 1224  
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0001



## Koigoed



Scientific name: *Helichrysum odoratissimum*  
Common name: Keigoed (English) / Keigoed (Xhosa) / Isiphepe (Zulu), IsiZulu

#### Background

Keigoed is a strong aromatic perennial herb or shrublet. About 245 species of *Helichrysum* occur in South Africa, of which the best known and commonly used medicinal plants are *H. cymosum*, *H. odoratissimum*, *H. petiolare* and *H. rudivitium*. The Afrikaans name keigoed reflects the traditional use as bedding material. The plant belongs to the family Asteraceae. Keigoed originated in South Africa and is distributed from the Swartbosberg in Limpopo, highlands of the Mpumalanga, midlands of KwaZulu-Natal, the North-Eastern Free State, the Cape Drakensberg mountains and the coastal areas of Eastern Cape and across the Cape Fynbos mountains of the Cedarberg, Janinaarsbaai, Griberg in Vanrhynsdorp as far as the Peninsula in the Western Cape.

#### Description

The plant can grow about 25 cm high.

#### Leaves

The dense, aromatic foliage consists of rounded or oval-shaped leaves which are covered with silvery-grey hairs.

#### Flowers

The flowers are very shortly pedicellate (almost sessile), of medium size (20 to 30 mm diameter) and bright yellow in colour. The plant flowers in spring (September-November) or summer (December-February). Tiny creamy-white flowers make up abun-

dant flower heads on long stalks which add to the decorative effect of this plant in mid-summer. The small flower heads are about 3 mm long, each comprising up to 15 small florets.

#### Stem

The plant has greyish-white, densely leafy stems.

#### Fruit

The fruit has a barrel-shaped, 5-ribbed, glabrous achene and is  $\approx$  1 mm long.

#### Climatic and soil requirements

Keigoed is best planted in full sun in well-drained, moist, rich, leamy soil and is tolerant of poor soils. It prefers a temperature of 50-55 °C.

#### Cultural practices

##### Planting

Keigoed should be planted in autumn (March).

##### Propagation

Keigoed is propagated by seed and stem cuttings.

##### Fertilisation

The plants can be fertilised with lots of compost, but do not particularly require it. Naturally it is cultivated without the use of any fertilisers.

##### Irrigation

The plant should be moderately irrigated, especially in winter as it tends to become infected with fungus and more regular watering may be needed in hot, dry, inland regions. Keigoed requires occasional to infrequent irrigation and seems to thrive during periods of lack of care.

#### Weed control

No herbicides are currently registered for the control of weeds in this plant. Manual weeding is the only proven safe method of weed control that can be applied at present. Munch is successful in reducing invasions of broad-leaved weeds, but grasses and sedges remain problematic.

#### Disease control

The plants can be infected with fungus diseases and die-back in a plot of land. Registered chemical control can be used when the disease is severe. Good sanitary practices are the best way to control dieback because the fungus lives inside the plant and cannot be completely controlled by fungicide spray.

#### Root control

The plant is susceptible to root rot in poorly drained soils. The rotten plants should be removed. Application of registered fungicides is recommended.

#### Harvesting methods

Fresh leaves may be picked as soon as the plant has enough foliage to maintain growth. The leaves or seeds should be picked after the dew has disappeared, but before the sun becomes too hot.

#### Uses

Keigoed is a popular medicinal plant used to treat ailments such as coughs, colds, infections, menstrual pain and headaches. The leaves are used by Rastafarians to make an infusion to treat asthma, chest problems and high blood pressure. Keigoed is also inhaled as a protective cleanser and as a pain reliever. It is also used as a facial cream for pimples, as a perfume, as a repellent for parasites and insects and as incense to raise the spirits of the ancestors. The



SAEOPA  
Southern African Essential  
Oil Producers' Association







Western Cape  
Government

## Legislative Review: Review of the Regulatory and Policy Framework relating to the Harvesting of Wild Honeybush (*Cyclopia* spp.)

Charl De Villiers & Gillian McGregor



STANDARDS  
LEGISLATION



MARCH 2017

EADP 696: THE DEVELOPMENT OF GUIDELINES FOR THE  
SUSTAINABLE HARVESTING OF WILD HONEYBUSH

Western Cape: Department of Environmental Affairs  
and Development Planning

Service Provider: Caroline Gelderblom Consulting

# ROOIBOS COUNCIL



## Aloe Council of South Africa

Fostering Aloe In Their Natural Habitat

# Standard for *Aloe ferox*



## Standards Bulletin

**SABS**

May 2007

### TECHNICAL COMMUNIQUE

#### NEW STANDARD (SANS 368) PUBLISHED FOR LOCAL ALOE INDUSTRY

The aloe industry (based on the *Aloe vera* plant) is arguably the largest of all medicinal plant industries, with a worldwide turnover of more than \$110 billion. The turnover of just one American company producing tonic drinks based on Aloe is reportedly more than \$2 billion.

"If the South African aloe industry, based on the indigenous *Aloe ferox*, can be improved and gain only 1 % of the international aloe trade, then a turnover of more than \$1 billion can be realised" said Prof Ben-Erik van Wyk, Chairperson and Director of the Aloe Council of South Africa. "Growth in the local industry would also create more jobs in rural areas, where unemployment is high and jobs are desperately needed. That is why the publication of this standard (SANS 368, *Aloe raw material*) is so important for the local aloe industry if it is to gain a foothold in first world markets and compete successfully with the highly organised *Aloe vera* industry.

"The problem is that *Aloe vera* is currently used as the international standard. So when local *Aloe ferox* products are exported, they are measured against the *Aloe vera* standards, and it is then claimed that the product is not acceptable. By having a national standard to work to, South African exporters will then be able to convince overseas importers that their product is of high quality", Van Wyk continued.

"This standard was developed to cater for all role players in the industry, and does not contain unrealistic and complicated analytical procedures. The main feature is transparency: the levels of required chemical compounds in the raw material product must be revealed, so that the client can make his own judgement about its suitability for his purpose.

"In other words, SANS 368 does not make any value judgements about one type of aloe producing a better raw material than another. The use of the standard will ensure that *Aloe ferox* material is of a high quality, and that the active ingredients and other ingredients are openly specified," he concluded.

In essence, the standard specifies requirements and test methods for *Aloe ferox* raw material intended to be used in consumer products including health, cosmetic, health food, medicinal, veterinary and industrial products. While primarily developed for *Aloe ferox*, it could be applicable to other aloe species.

For further information, please contact:

To purchase the standard:  
Standards Sales at the SABS  
Telephone 012 428-8883  
Fax 012 428-8928  
Email [sales@sabs.co.za](mailto:sales@sabs.co.za)

- ## Standards coming for
- 1) Pelargonium var Rose
  - 2) Baobab
  - 3) Marula
  - 4) Lippia
  - 5) Helichrysum
  - 6-10) ?



# Rooibos and Honeybush export standards

STAATSKOERANT, 23 JANUARIE 2015

No. 38398 5

## GOVERNMENT NOTICE GOEWERMENTSKENNISGEWING

DEPARTMENT OF AGRICULTURE, FORESTRY AND FISHERIES  
DEPARTEMENT VAN LANDBOU, BOSBOU EN VISSERYE

No. 18

23 January 2015

AGRICULTURAL PRODUCT STANDARDS ACT, 1990 (ACT No. 119 OF 1990)

### STANDARDS AND REQUIREMENTS REGARDING CONTROL OF THE EXPORT OF ROOIBOS AND ROOIBOS MIXTURES: AMENDMENT

I, Billy Malose Makhafola, appointed as Executive Officer in terms of section 2(1) of the Agricultural Product Standards Act, 1990 (Act No. 119 of 1990), hereby give notice under section 4(3)(c) of the said Act, that --

- (a) the standards and requirements regarding control of the export of rooibos and rooibos mixtures as stipulated by Government Notice No. R. 1983 of 23 August 1991 and promulgated in Government Notice No. 1369 of 20 September 1996, as amended by Government Notices Nos. 2285 of 23 November 2001 and 568 of 2 July 2010 are hereby amended; and
- (b) the amendments mentioned in paragraph (a) --
  - (i) shall be available for inspection at the Office of the Executive Officer: Agricultural Product Standards, Harvest House, 30 Hamilton Street, Arcadia, Pretoria;
  - (ii) may be obtained from the Executive Officer: Agricultural Product Standards, Department of Agriculture, Forestry and Fisheries, Private Bag X343, Pretoria, 0001, tel. no. (012) 319-6059 on payment of the prescribed fees or may be obtained from fax no. (012) 319-6055, or e-mail: [yvonneT@daff.gov.za](mailto:yvonneT@daff.gov.za) or <http://www.daff.gov.za>; and
  - (iii) shall come into operation seven days after publication of this Notice.

**B.M. MAKHAFOLA**  
Executive Officer: Agricultural Product Standards



Be a yardstick of quality.  
Some people aren't used  
to an environment where  
excellence is expected.



**Steve Jobs**  
American entrepreneur  
and inventor  
(1955-2011)

DEPARTMENT OF AGRICULTURE, FORESTRY AND FISHERIES

STD. No. B-11

AGRICULTURAL PRODUCT STANDARDS ACT, 1990 (ACT No.119 OF 1990)  
DRAFT STANDARDS AND REQUIREMENTS REGARDING CONTROL OF THE  
EXPORT OF HONEYBUSH, GREEN HONEYBUSH AND HONEYBUSH MIXTURES

The Executive Officer: Agricultural Product Standards has stipulated under section 4(3)(a)(ii) of the Agricultural Product Standards Act, 1990 (Act No.119 of 1990), the standards regarding the quality and the requirements regarding the packing, marking and labelling of honeybush, green honeybush and honeybush mixtures.

# Recommendations

Species	Economic	
	Key region(s) in RSA	Key region
<i>Aloe ferox</i>	Western Cape Eastern Cape	South Africa
Marula	Limpopo	SADC
Baobab	Limpopo	SADC
Kalahari melon	All provinces	SADC
Rooibos	Western Cape	Western Cape
Buchu	Western Cape	Western Cape
Wild ginger	KZN, Mpumalanga, Limpopo	SADC
Rose geranium	E Cape, W Cape, KZN, Mpumalanga, Limpopo	RSA

- The prevalence of the species and the distribution of it in the provinces should be considered in respect of equal representation.
- Most the species in the Western Cape (7 out of 13)
- KwaZulu-Natal (4 out of 13), of which most have already been thoroughly researched and markets created. Most essential oils exported are from KZN.
- Lesser known plants in the rest of South Africa are being replaced e.g. *Ximenia* and Manketti on the priority list with plants better known even though **already commercialized** e.g. Rooibos, Honeybush and *Aloe ferox*
- Bulk vegetable oils are from Limpopo
- The grouping/clustering of the species needs to be revised
- Some botanicals were added, e.g. teas and others used in dried form
- Others than for teas in tinctures and extracts.
- Different to the distillation of essential oils or pressing of vegetable oils.

Some species can be processed and applied in more than one way and will overlap into more categories. See the recommendation of categories of processing in the table below.



<i>Lippia javanica</i>	All provinces except W Cape	SADC
Cape chamomile	Western and Eastern Cape, Freestate	Western and Eastern Cape, Freestate
<i>Helichrysum</i>	All provinces	SA
Honeybush	WC & EC	Western Cape
<i>Artemisia</i>	Most provinces	SADC

# Processing index and by-products included

	Dried as tea or spice	Distilled	Pressed	Extracts / tinctures	Other by-products
<b>Lippia javanica</b> (Lemon bush, fever bush)	Leaves	Leaves			Possibly hydrolat
<b>Eriocephalus spp.</b> (Cape chamomile)	Leaves	Leaves			Possibly hydrolat
<b>Sclerocarya birrea</b> (Marula)	Bark		Seeds		Nuts eaten fresh Seed cake used for animal feed.
<b>Aloe ferox</b>	Leaves				Crystals and powdered
<b>Pelargonium var Rose</b> (Rose geranium)	Leaves	Leaves			Possibly hydrolat
<b>Cyclopia</b> (Honeybush)	Leaves				
<b>Helichrysum spp.</b> (Impepho)	Leaves	Leaves			Smoked and used burnt in ceremonies
<b>Siphonochilus</b> (Wild ginger)		Root		Root	
<b>Artemisia afra</b> (Lengana, Wormwood)	Leaves	Leaves		Leaves	Inhaled for chest problems. Possibly hydrolat
<b>Citrullus lanatus</b> (Kalahari melon)			Seeds		Seedcake for animal feed, pulp for energy drinks
<b>Adansonia digitata</b> (Baobab)			Seeds		Seedcake and powder for super foods
<b>Aspalanthus</b> (Rooibos)	Leaves	Leaves		Leaves	
<b>Agathosma</b> (Buchu)	Leaves	Leaves		Leaves	



# South African exports declining in US\$



- South Africa exports of essential oils, perfumes, cosmetics, toiletries was US\$577.85 Million during 2019, according to the United Nations COMTRADE database on international trade.
- South Africa exports of essential oils, perfumes, cosmetics, toiletries - data, historical chart and statistics - was last updated on July of 2020.

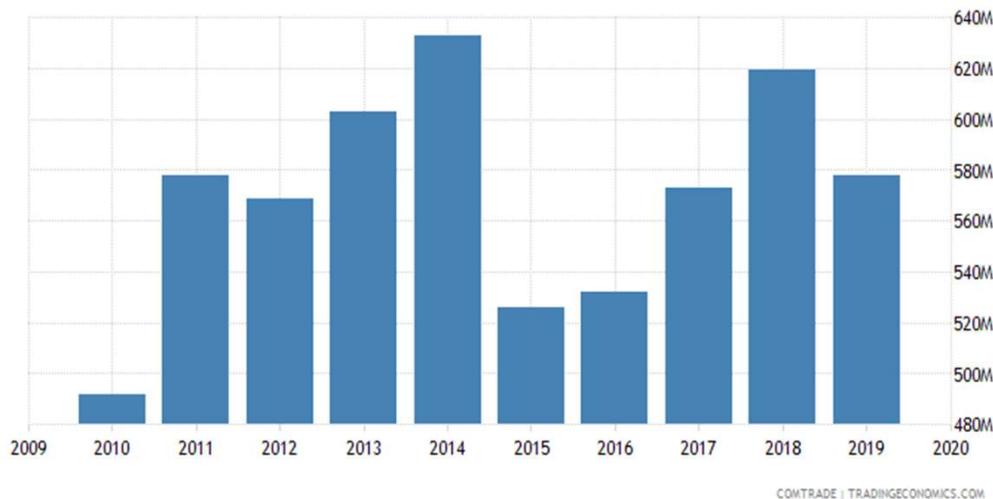
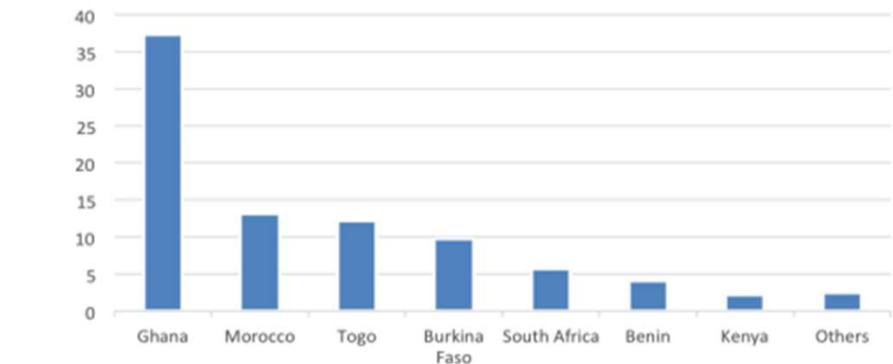


FIGURE 2: LEADING SUPPLIERS OF AFRICAN VEGETABLE OILS – VOLUMES IN 1,000 TONNES – 2017



Source: ITC

# Importing markets for SA re-exported by SA

List of importing markets from Southern African Development Community (SADC)  
for a product reexported by South Africa

Product: 3301 Essential oils, whether or not terpeneless, incl. concretes and absolutes;  
resinoids; extracted ...

Sources: ITC calculations based on [UN COMTRADE](#) statistics.



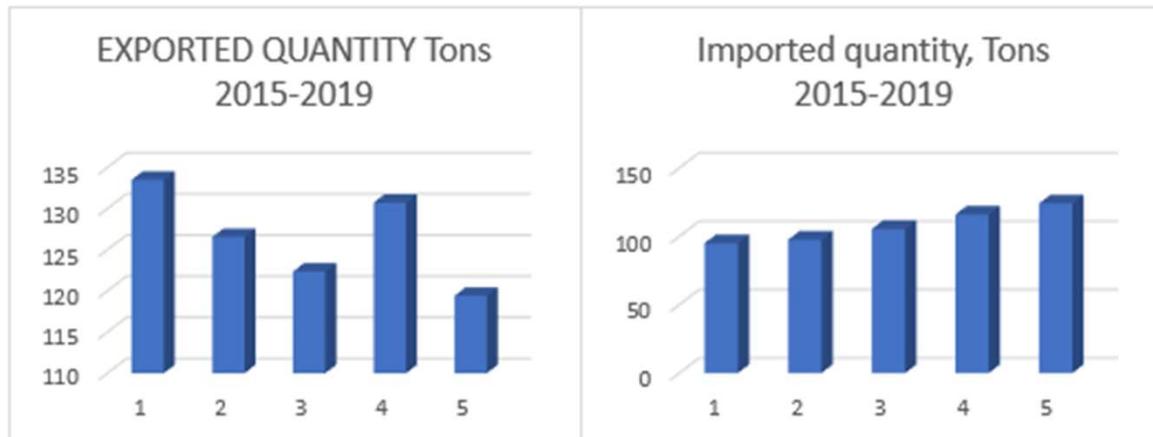
Importers	2017	2018	2019	Reexported value in 2019, South African Rand thousand	Reexported quantity in 2019, Tons
	Reexported unit value, South African Rand/	Reexported unit value, South African Rand/Tons	Reexported unit value, South African Rand/Tons		
World		188,885	214,092	2,569.11	12
Southern African Development Community (SADC) Aggregation		124,573	169,074	1,183.52	7
Mozambique		197,493	230,931	461.86	2
Zimbabwe		46,082	180,415	360.83	2
Zambia		157,995	105,843	317.53	3
Malawi				43.3	0
Congo, Democratic Republic of the				0	0
Angola		46,082		0	0



Ximenia

# Future aspects of other species

- In the light of the current agricultural renaissance, a section addressing the potential of modern technologies and green energy could be added to the assignment as an additional investigation or follow up activity.
- Improvement of the methods of agro-processing is desperately needed to fill the increasing demand for volumes, safety and quality control.
- No attention was given to this important aspect yet although it affects the outcome of economic performance of the producers.





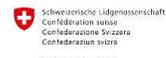
Thank you for your time!

THE ABS  
CAPACITY  
DEVELOPMENT  
INITIATIVE



L'INITIATIVE DE  
RENFORCEMENT  
DES CAPACITES  
POUR L'APA

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