








Medicinal plants of South Africa

Directorate: Plant Production

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Content

Introduction

Medicinal plants are plants which are used in herbalism and thought to have certain extractable/compound in their leaves, stems, flowers and fruit for medicinal purposes. These extracts are used as inputs in the pharmaceutical, nutraceutical, insecticide and other chemical industries. The booklet is a guide to the most commonly utilised medicinal plants in South Africa.

1. Aloe ferox

Scientific name: *Aloe ferox* Mill

Common names: Bitter aloe, tap aloe, cape aloe, red aloe (English); bitteraalwyn, tapaalwyn, bergaalwyn (Afrikaans); inlaba (isiZulu); ikhala (isiXhosa)

Family: Aloaceae

Description: *Aloe ferox* is a succulent plant that reaches 2 to 3 m in height. It has a perennial, strong and adventitious/fibrous root system and is a robust, single, unbranched woody stemmed plant. The leaves are broad, dull green to greyish green, but turn reddish in colour when under drought stress.

Production areas: In South Africa, Aloe ferox is distributed throughout the Western Cape, Eastern Cape, southern KwaZulu-Natal, south-eastern part of the Free State.

Parts used: Leaves

Climatic and soil requirements: Aloe ferox grows well in warm climates with a temperature ranging between 12 °C and 21 °C. The plant also grows well on a well drained, sandy soil.

Propagation: It may be grown from seeds and stem cuttings. Seeds can be collected in winter or spring.

Planting: It can be planted in spring, 1,5 to 2 m from each other.

Fertilisation: A small quantity of manure is required to enhance the growth of the plant and organic compost to speed up growth.

Pests: The major insects identified in Aloe ferox include aloe snout beetle, scale insects, mealy bug and mites.

Diseases: The plant is prone to a variety of diseases, including aloe cancer (also called galls), leaf spots, bacterial infections and aloe rust.

Harvesting: The crop is ready for harvesting after 18 months of cultivation. Only 10 to 15 of the lower leaves of an adult plant are harvested once a year. The leaves are cut with a sickle.

Uses: Leaves have been traditionally used for stomach complaints, arthritis, eczema, conjunctivitis, hypertension and stress. They are also used to treat skin irritations and bruises.

2. African ginger

Scientific name: *Siphonochilus aethiopicus*
Common names: Natal ginger, african ginger (English); wildegemmer (Afrikaans); indungulo, isiphephetho (isiZulu)
Family: Zingiberaceae

Description: African ginger is a herbaceous perennial plant of the forest floor. The flowers are broadly funnel- shaped, pink and white in colour. The leaves are light green, heart- shaped and borne on the end of stem-like leaf bases. The stems reach a maximum height of 2 m. It has thick roots, whitish or buff- coloured in appearance.

Production areas: In South Africa, African ginger is distributed in Mpumalanga and Limpopo.

Parts used: Secondary roots and rhizomes

Climatic and soil requirements: A soil temperature of between 20 and 22 °C and air temperature of around 20 °C are suitable. It grows best in a well-drained, red and yellowish-brown soil rich in organic matter. The best soil pH for african ginger is 6,0 to 7,0.

Propagation: African ginger is propagated by seeds, rhizomes or tissue culture. Propagation of rhizomes can be done in spring.

Planting: Spring or summer is the ideal time for planting african ginger. Seeds should be planted in 2 or 3 furrows, approximately 15 cm deep into the soil with a spacing of 18 cm apart and 72 cm between the rows.

Fertilisation: High levels of organic matter are required. Light application of organic fertiliser (e.g. N, P and K) should be made.

Pests: The major insects and pest identified in african ginger include nematodes, aphids, caterpillars, leaf-miner, leaf spots and mites.

Diseases: The most frequent diseases in african ginger include: damping off, powdery mildew, rust and leaf spot.

Harvesting: The harvesting method is determined by the purpose for which the plant is grown. African ginger can be harvested by hand or mechanically with a rotary cutter. It can be harvested by digging it up and removing all of the plant from about 10 cm below the crown or it can be lifted by hand and the green leaves, stem and root broken off.

Uses: Fresh roots or rhizomes can be chewed to treat influenza. It can also be used for colds, asthma, to treat malaria and by women during menstruation. The plant has also been traditionally used as an appetite suppressant and sedative.

3. Wild rosemary

Scientific name: *Eriocephalus africanus*
Common names: Wild rosemary, marsh rosemary, moorwort, cape snowbush (English); pokbos (Afrikaans)
Family: Labiatae

Description: The plant is a small, multi-branched evergreen shrub of up to 1 to 1,5 m in height. It has woody stems with brown, tough bark. The root system is well-developed with a taproot that can penetrate the soil to a depth of 6 m and lateral roots that extend about 2 m around the plant. The evergreen leaves are about 2, 54 cm long.

Production areas: In South Africa, wild rosemary is distributed throughout the Western Cape and Eastern Cape Province.

Parts used: The young tops, leaves, flowers, seed and stems/sprigs

Climate and soil requirements: Wild rosemary prefers night temperatures of between 10 to 13 °C, day temperatures of between 20 and 22 °C and well-drained soil that is sandy, loamy and quite dry.

Propagation: Wild rosemary is propagated by seeds, cuttings, layering and division of roots.

Planting: The seeds can be sown in spring or autumn and the cuttings can also be taken in spring or autumn, however, in the Western Cape it is planted in the wet winter months. Cultivated plants are planted in rows and spaced 1, 2 m x 0, 5 m apart.

Fertilisation: Nitrogen, phosphorus, potassium and sulphur should be applied annually according to the soil analysis.

Pests: The major insects identified in wild rosemary include aphids, spider mites, gall midge and rosemary leaf beetle.

Diseases: The major diseases identified in wild rosemary include box blight, root disease and powdery mildew.

Harvesting: The plant is ready for harvesting 2 to 3 years after planting.

Uses: The leaves are rubbed and smoked for asthma and other infections of the throat and lungs.

4. Cancer bush

Scientific name: *Sutherlandia frutescens (Lessertia frutescens)*
Common names: Sutherlandia, cancer bush, turkey flower,balloon pea (English); umnwele, unwele (isiXhosa and isiZulu); kankerbossie, blaasbossie, blaas-ertjie, eendjies, gansiekeurtjie, klappers, hoenderbelletjie (Afrikaans); phetola, mokakana (Setswana); lerumo-lamadi (Sepedi); musa-pelo, motlepelo (Sesotho)
Family: Fabaceae

Description: Cancer bush is a hardy perennial shrub that can grow up to 3 m tall. It has a remedy stem. The leaves are pinnately compound. The flowers are orange-red, up to 3 cm long.

Production areas: In South Africa, the plant is found in the Northern Cape, Eastern Cape, KwaZulu-Natal, Western Cape and Mpumalanga provinces.

Parts used: Leaves and young stems

Climate and soil requirements: Cancer bush prefers full sun, well-drained soils and a location receiving substantial moisture. The optimum day temperature should be about 25 °C. It prefers a soil pH of 7, 6 to 8, 1.

Propagation: The plants are propagated from seeds and cuttings.

Planting: Planting should be done in spring or autumn. Seeds should be sown 1 m apart in groups of three to five.

Fertilisation: The soil mixture should contain two parts sand and one part compost.

Pests: There are no known pests that damage cancer bush plants.

Diseases: Damping off and rot disease could lead to damage to the plants.

Harvesting: Cancer bush can be harvest in spring to early summer. The entire plant is harvested using manual or mechanical cutting.

Uses: Leaves have been traditionally used to treat fever, poor appetite, indigestion, gastritis, peptic ulcer, dysentery, cancer, diabetes, colds and flu, cough, asthma, chronic bronchitis, kidney and liver conditions, rheumatism, heart failure, urinary tract infections as well as stress and anxiety.

5. Devil's claw

Scientific name: *Harpagophytum procumbens*
Common names: Wood spider, grapple plant, devil's claw (English); Sengaparile (Setswana)
Family: Pedaliaceae

Description: Devil's claw is a prostrate, mat-forming perennial herb and it is considered as a weed. The plant grows up to 1, 5 m in length. It has creeping stems. Devil's claw has a central taproot and secondary root tubers (storage roots) branching off horizontally. The roots are found up to 2 m deep and the secondary storage roots are up to 25 cm long and 6 cm thick. The leaves are greyish- green. The tubular flowers are either yellow and violet or uniformly dark violet.

Production areas: In South Africa, devil's claw grows in the North West and Northern Cape provinces, and in the western Free State.

Parts used: Root/tuber

Climate and soil requirements: The plant grows well in temperatures of between 17 and 30 °C. It grows best on well-drained deep, red, light sandy to rocky soils.

Propagation: The plant is propagated from seeds or planted from secondary tubers.

Planting: It can be planted in late spring or early summer. The seeds should be scattered evenly over the prepared beds or should be sown in a furrow of 20 cm deep and 60 cm wide. The small tubers should be planted 10 cm deep and 50 cm apart.

Fertilisation: A lime fertiliser or compost is needed.

Pests: The only pests of concern are animals feeding on the tubers, e.g. porcupines and antelope such as duiker and steenbok. Birds are attracted to freshly seeded wildflower beds.

Diseases: Over-watering could lead to fungus problems.

Harvesting: Only the secondary root tubers are harvested. Harvesting can be done by hand or cutting the fresh root tubers into slices, using a stainless steel knife or digging stick.

Uses: Tubers have been traditionally used for treating diseases of the liver, kidneys and bladder. It can also be used to stimulate appetite, and for indigestion.

6. African potato

Scientific name: *Hypoxis hemmerocallidea*

Common names: Yellow star, star lily, african potato (English); sterretjie, afrika-patat (Afrikaans); inkomfe, ilabatheka (isiZulu); inongwe (isiXhosa); moli kharatsa, lotsane (Sesotho)

Family: Hypoxidaceae

Description: African potato is a perennial geophytic herb. It is a very attractive, hardy garden plant of about 100 to 500 mm tall. The plant has an unbranched stem and an underground rootstock called the corm. The leaves are deciduous and up to 30 cm x 3, 2 cm in width. The flowers are star- shaped, yellow in colour.

Production areas: The plant is common in the Eastern Cape, KwaZulu-Natal, Mpumalanga, Limpopo, Gauteng, North-West and Free State provinces.

Parts used: Tuber (corm), leaves and bulbs

Climate and soil requirements: The plant prefers a full sunlight. It grows well in warm and cold subtropical areas. It needs a well-drained soil. African potato is planted on different soil conditions as the best suited soil for planting not found yet.

Propagation: Propagation of the plants is done from seeds, tissue cultures and bulbs. Planting: The seeds should be sown in early spring and planted 1 mm deep. The one-year-old corms have to be planted 10 cm apart in rows and 20 cm between the rows. More than three years' corms have to be planted 20 cm apart in rows and 50 cm between rows.

Fertilisation: No chemical additives, no chemical fertilisers or insecticides are used in the cultivation of african potato.

Pests: African potato is attacked termites and other pests such as American bollworm, spotted maize beetle, stink bug and grasshopper. Porcupines dig up the corns and centipedes eat the outer covering.

Diseases: The leaves of this plant die-back over the winter months.

Harvesting: African potato can be harvested in summer and a handpicked method is used when harvesting the plant.

Uses: The tuber has been traditionally used for benign prostate hypertrophy, urinary tract infections and testicular tumours. They can also be used to treat dizziness, heart weakness, nervous and bladder disorder as well as depression.

7. Hoodia gordonii

Scientific name: *Hoodia gordonii* (Asclepiadaceae)

Common names: Bobbejaanghaap, bergghaap, bitterghaap, bokhoring (Afrikaans); khobab (Khoi), ghaap, hoodia, queen of the Namib, african hats, milkweed (English)

Family: Apocynaceae

Description: Hoodia is a spiny succulent, leafless plant that can grow to a height of 1 m. Stems are greyish- brown in colour with the new growth being light- green and it is usually erect from 0, 3 to 2, 2 m in length. It has saucer- shaped flowers that are 70 to 100 mm in diameter and pale- purple in colour.

Production areas: In South Africa, it is distributed in the north-eastern part of the Western Cape, the north and north-western regions of the Northern Cape.

Parts used: Leaves and stem.

Climate and soil requirements: Hoodia thrives in extremely high temperatures of up to 50 °C and it prefers light shade. A minimum winter temperature of 10 °C is needed. It prefers a well- drained, red, sandy loam soil with a pH of 6, 2.

Propagation: Propagation is mainly from seeds.

Planting: Hoodia can be planted in spring. The seeds should not be planted deeper than 0,5 cm.

Fertilisation: Fertilisers should be applied twice a year, once in April and once in July.

Pests: The major insects identified include mealy bug, snail, slug, scale, red- spider mites and nematotes (eelworm). Registered pesticides can be used.

Diseases: The major diseases identified include rot and damping off. The use of a registered fungicide is recommended.

Harvesting: Wet plant material may only be harvested normally between April and August. A maximum of ten (10) stems may be cut off at least three fingers' width (5 cm) above ground level with a sharp, stainless steel blade.

Uses: Stems are widely used as an appetite suppressant, thirst quencher, mood enhancer and as a cure for severe abdominal cramps, haemorrhoids, tuberculosis, indigestion, hypertension and diabetes.

8. Kooigoed

Scientific name: *Helichrysum odoratissimum*
Common names: Everlasting (English); kooigoed (Afrikaans); imphepho (isiXhosa, isiZulu)
Family: Asteraceae

Description: Kooigoed is a strong aromatic perennial herb or shrublet. The plant can grow about 25 cm tall. The leaves are densely aromatic hairy, silver and oval in shape. The flowers are very shortly pedicellate (almost sessile), medium sized (20 to 30 mm diameter) and bright-yellow in colour.

Production areas: Kooigoed originated in South Africa and is distributed from the Soutpansberg in Limpopo, highlands of Mpumalanga, midlands of KwaZulu-Natal, the north-eastern Free State, the Cape Drakensberg mountains and the coastal areas of the Eastern Cape and across the Cape folds mountains of the Cedarberg, Jonkershoek, Gifberg in Vanrhynsdorp as far as the peninsula in the Western-Cape.

Parts used: Entire plant

Climate and soil requirements: Kooigoed prefers a temperature of 50 to 55 °C and a light, well- drained and moist, rich, loamy soil.

Propagation: Kooigoed is propagated by seed and stem cuttings.

Planting: It should be planted in autumn and it is set out in groups of 3 to 5.

Fertilisation: Naturally, it is cultivated without the use of any fertilisers.

Diseases: The plant is susceptible to root rot in poorly drained soils The plants can be infected with fungus diseases and die-back.

Harvesting: Fresh leaves may be picked as soon as the plant has enough foliage to maintain growth before the sun becomes too hot.

Uses: Twigs and leaves can be used for colds, coughs, infections, headaches, fevers, menstrual pains and others.

9. Kougoed

Scientific name: *Sceletium tortuosum*
Common names: 'Tortuose fig marigold' and canna (English); kanna or kauwgoed, kougoed (Afrikaans)
Family: Aizoaceae

Description: Kougoed is a small groundcover, insect pollinated plant and it is climbing or creeping. This plant is a shrub or a small, multi-branched tree, usually around 5 m in height. The leaves are oblong in shape, about 50 mm long and 20 mm wide. The flowers are very shortly pedicellate (almost sessile) and are of medium size.

Production areas: The plant is widespread to the Karoo areas of the Western, Eastern and Northern Cape provinces in South Africa.

Parts used: Stems and leaves.

Climatic and soil requirements: Kougoed requires a minimum temperature of 16 °C and thrives best in permeable, loamy soil.

Propagation: Propagation is by cuttings and seeds.

Planting: Kougoed can be grown in autumn, winter and spring, with a rest period during summer.

Fertilisation: Naturally, it is cultivated without the use of any fertilisers.

Pests and diseases: In the spring, newly emerging shoots are troubled by aphids, slugs and snails. Older plants are not often attacked by slugs and snails. Red spider mite can occasionally infest indoor kougoed.

Harvesting: Kougoed is harvested in October and the plant material is crushed between two rocks.

Uses: The leaves can be used for treatment of anxiety and depression

10. Wild garlic

Scientific name: *Tulbaghia violacea*
Common names: Wild garlic (English); wildeknoflok, perswilde knoffel (Afrikaans); isweli-lezinyoka/isihaqa (isiZulu),
Family: Alliaceae

Description: Wild garlic is a perennial, fast-growing, bulbous plant that reaches a height of 0,5 m. It has a long, narrow, grey-green strap-shaped leaves and fat, tuberous roots. The long flower stalk is orange-brown, purple/pink or white in colour. The tubular flowers are pinkish mauve in colour.

Production areas: It grows in the rocky grasslands of Eastern Cape, KwaZulu-Natal and Limpopo provinces of South Africa.

Parts used: The rhizomes, leaves, bulb, flowers.

Climatic and soil requirements: The plant can only survive cold winter nights of 20 °C. Wild garlic needs summer days with high heat. Full sun to light shade is best for growing this plant. It prefers moist, fertile, well-drained loam soil that contains plenty of compost.

Propagation: The plant is propagated from seeds or by dividing larger clumps.

Planting: Wild garlic can be grown in spring, in groups of four or five at 30 cm apart and 5 mm deep.

Pests and diseases: Wild garlic seldom falls prey to pests and diseases, but slugs and snails can cause considerable damage to the foliage. The only disease which is likely to affect them is rust. Pests that affect wild garlic are whiteflies and aphids. Wild garlic is affected by diseases such as Pythium and Phytophtora root rot, blight, fungi and leaf spots.

Harvesting: All the leaves should be cut from one clump close to the ground.

Uses: The rhizomes and leaves are used for the treatment of fever, rheumatism, asthma and constipation. The fresh bulbs are boiled in water and the decoctions are taken orally to clear up coughs and colds and they can be used as a remedy for pulmonary tuberculosis and to destroy intestinal worms. The leaves are used to treat cancer of the oesophagus.

11. African wormwood

Scientific name: *Artemisia afra*
Common names: Wild wormwood, African wormwood (English); Wilde-als (Afrikaans); Mhlonyane (Zulu); Umhlonyane (Xhosa); Lengana (Tswana, Sotho); Zengana (Southern Sotho)
Family: Asteraceae

Description: African wormwood is a highly aromatic plant, an erect, multi-stemmed perennial shrub of up to 2 m in height. It has a grey-green, feathery leaves and the flowers are creamy-yellow and 3 to 4 mm in diameter. The stems are thick and woody at the base, becoming thinner and softer towards the top.

Production areas: African wormwood is widely distributed in all provinces of South Africa, except the Northern Cape Province.

Parts used: Dry or fresh leaves, young stem and the roots are sometimes also used.

Climatic and soil requirements: The temperature range for growth of wild wormwood is 10 to 35 °C with the optimum between 13 to 29 °C. The soil should be kept moist, deep with a depth of 5 mm and well- drained at a pH of 5, 5 to 7, 5. It prefers to grow in slightly sandy and loamy soils.

Propagation: African wormwood can be propagated either by root or stem cuttings.

Planting: African wormwood should be planted in the spring. The seeds should be planted 50 cm apart in rows, with 1,5 m between the rows. Seeding depth must be at 5 mm below the soil.

Fertilisation: Fertilisers should be applied in the early spring and mulch applied in the late autumn.

Pests and diseases: The major insects and pests identified in wild wormwood include cutworms, black field crickets and whiteflies and a number of species of the Lepidoptera (e.g. butterflies and moths).

Harvesting: Two harvestings of the leaves could be made in the same season, the first in mid-summer, and the second in late summer or early autumn. Mechanical harvesting should be done from beginning to mid-flowering time.

Uses: Traditionally it is used for a wide range of ailments from coughs, colds, fever, loss of appetite, colic, headache, earache, intestinal worms to malaria, respiratory tract infections, influenza, sore throats, asthma, pneumonia, gastritis, indigestion, flatulence, constipation, gout and measles. The roots, stems and leaves are taken as enemas for febrile complaints, poultices, infusions, body washes, lotions, smoked, snuffed or drunk as a tea.

12. Pepperbark tree

Scientific name: *Warburgia salutaris*
Common names: Pepperbark tree (English); pepperbasboom (Afrikaans); isibhaha (isiZulu); mulanga, manaka (Tshivenda); shibaga (isiTsonga); molaka (Sepedi)
Family: Canellaceae

Description: The pepper-bark tree is an evergreen aromatic tree that grows up to 5 to 10 m in height. All parts of the tree are highly aromatic with a peppery smell and taste. The main stem is short, and the bark is shiny and brown with rough, longitudinal marks, becoming cracked and darker brown with age. The long and narrow leaves are green above and paler below. It has a small white to greenish flowers of up to 7 mm in diameter.

Production areas: In the north-eastern parts of Limpopo, extends southwards as far as KwaZulu-Natal, eastern and northern Gauteng Province of South Africa.

Parts used: Entire plant

Propagation: Pepper-bark tree is cultivated from seeds and vegetatively from cuttings (roots and stem) and tissue culture.

Climatic and soil requirements: The tree grows on very sandy soil, in well-drained soil, with good aeration. It prefers a moderate climate.

Planting: The best time to take cuttings is in spring. In a plantation trees can be spaced 2 m apart in the row with 4 m between rows.

Fertilisation: Soil should be rich in organic matter in the form of well-rotted compost.

Harvesting: It can commence once the trees reach a height of 1 m.

Uses: Medicinally, the pepper-like, bitter stems and root bark are used to cure many ailments. Dried and ground, they make a snuff used to clear the sinuses. Taken orally it is believed to cure spots in the lungs. Powdered and mixed with water, they are believed to cure sores in the mouth. The bark, stems, roots and leaves are used to treat colds and respiratory complaints. It is used as a tonic for all health conditions including fever, malaria, influenza, coughs and as a natural antibiotic for chest infections. It is also used for treatment of venereal diseases, abdominal pain and constipation, cancer, rheumatism and stomach ulcers.

13. Pineapple flower

Scientific name: *Eucomis autumnalis*
Common names: Pineapple flower, pineapple lily (English); wildepynappel, krulkoppie (Afrikaans); umathunga (isiZulu)
Family: Asparagaceae

Description: Pineapple flower is a deciduous, summer growing bulb of up to ±50 to 60 cm height. The bulbs are large (8 to 10 cm in diameter). It has broad wavy soft-textured strap-shaped leaves of about 12 to 35 cm long x 60 to 75 cm wide and yellow-green flowers of about 60 cm tall.

Production areas: Pineapple flower occurs in Limpopo, Mpumalanga, Gauteng, Free State and Eastern Cape provinces of South Africa.

Parts used: Bulb

Climatic and soil requirements: Bulbs should be planted with their tops below the ground level, in rich soil, in full sun or partial shade. Plants perform much better in fertile, well-drained compost soil.

Propagation: Propagation is by offsets, seeds, leaf cuttings and tissue culture.

Planting: Seeds are sown in spring, 10 cm deep. The offset is also planted in spring and should be planted in groups.

Fertilisation: Application of well-rotted compost every spring is required.

Pests and diseases: There are no major pests or diseases that commonly harm pineapple flower, but a few that are identified include cut worms, leaf-miners, mealybugs and botrytis. Porcupines sometimes eat the bulbs and bees pollinate the pleasant smelling flowers.

Harvesting: Stems should be harvested no sooner than when a quarter of the florets have opened.

Uses: The bulb can be used for back-ache, to assist in post-operative recovery and to assist in healing fractures. They are traditionally used to treat fever, hang-over, urinary complaints, stomach ache, colic, flatulence and syphilis.

14. Pelargonium sidoides

Scientific name: *Pelargonium sidoides*
Common names: Kalwerbossie, rabassamin, rooi rabas (Afrikaans); umckaloabo (isiZulu)
Family: Geraniaceae

Description: Pelargonium sidoides is a small, perennial herb with tuberous roots. The long-stalked leaves are mildly aromatic, heart- shaped and velvety. It has distinctive dark, reddish-purple (almost black) flowers.

Production areas: In South Africa, Pelargonium sidoides occurs in Eastern Cape, Free State and Gauteng province.

Parts used: Entire plant.

Climatic and soil requirements: Plants usually grow on stony soil varying from sand to clay-loam, shale or basalt. They grow well in an average soil that is well- drained. Pelargonium sidoides likes a sunny exposure, but in very hot areas it benefits from partial shade. The soil pH requirement is 7,6 to 7,8.

Propagation: Propagation is from cuttings, sometimes from seeds.

Planting: Planting should be done 90 cm apart.

Fertilisation: Every two weeks during growth fertilisation is necessary.

Pests and diseases: Overwatering can lead to root- rot. The major insects and pest identified in Pelargonium sidoides include spider mites, thrips, mealybugs, caterpillars, mildew, grey mould, black leg, flower break virus, Xanthomonas blight, and oedema. Aphids can be a problem. The caterpillar larvae of some butterflies and moths also do some damage.

Harvesting: After three years uproot the entire plant to harvest the roots.

Uses: It is traditionally used for coughs and chest troubles and is effective for bronchitis in children. It can be used for the treatment of infections such as cough, fever, sore throat, as well as fatigue and weakness. Infusions of the tuber are used to treat dysentery and diarrhoea.

15. Moringa

Scientific name: *Moringa oleifera*
Common names: Drumstick tree, horseradish, been oil tree, moringa (English); peperwortelboom (Afrikaans)
Family: Moringaceae

Description: Moringa oleifera is a fast growing, small, hardy tree producing a tuberous taproot. In the wild it ranges in height, from 5 to 12 m. It has a straight trunk (10 to 30 cm thick) with whitish bark and an open, umbrella- shaped crown. The leaves are feathery, green to dark green in colour and 1 to 2 cm long. The flowers are 10 to 25 cm long and white to cream coloured. Immature pods are green or reddish in colour.

Production areas: In South Africa, Moringa oleifera is produced in Limpopo Province, Free State, Mpumalanga, KwaZulu-Natal and Gauteng.

Parts used: The leaves, roots, bark and immature pods.

Climatic and soil requirements: It is widely adapted to the tropics and subtropics. It requires high average daily temperatures of 25 to 30 °C. Moringa oleifera prefers well-drained soils in the neutral pH range. It can grow well in heavy (clay) soils.

Propagation: The plant can be propagated by cuttings and seeds.

Planting: The cuttings should be planted 1 to 2 m and the seed 2, 5 cm. The seeds should be planted 2 cm apart and 1 cm deep.

Fertilisation: For positive yield response N fertilization rates as high as 350 kg N per ha is necessary.

Pests and diseases: It is resistant to most pests and diseases, though root rot can occur if the soil is too wet.

Harvesting: The plant can be harvested when it reaches a height of 1 m, by cutting the top of the plant off and leaving the remains 30 cm high.

Uses: It is used for medicinal purposes to cure various ailments such as headache, wounds or insects bites, bacterial or fungal skin complaints, gastric ulcers, diarrhoea and treat liver and spleen problems, pains of the joints and malnutrition.

Organisations involved in the industry

National Departments
Provincial Departments
Research Institutions
Non-governmental organisations (NGO's)
Traditional healers and their organisations
Academic Institutions
Municipalities
Parastatals
Donor and Conservation bodies

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