CITY OF CAPE TOWN
ISIXEKO SASEKAPA
STAD KAAPSTAD

YOUR SPEKBOOM GUIDE

- *Portulacaria afra* (Scientific name)
- Pork bush or Elephant's food (English);
- Spekboom (Afrikaans);
- iGqwanitsha (isiXhosa)

Making progress possible. Together.

Published by the City of Cape Town, May 2020
More information available from:
Recreation and Parks Department
Newlands Nursery
Tel: 021 444 1449 / 021 444 1450 / 021 444 1452
E-mail: arborist@capetown.gov.za
Website: www.capetown.gov.za/departments

If you have any comments, suggestions or updates, please e-mail susan.steyn@capetown.gov.za

1. SPEKBOOM IS PROUDLY SOUTH AFRICAN

It is found predominantly in the Eastern Cape, and especially in the semi-arid Karoo region, where growing conditions are ideal for this resilient plant. It favours north-facing slopes where it is exposed to maximum sunlight. Thriving in poor soils, it tolerates both drought and frost.

THE SPEKBOOM IS AN ATTRACTIVE, EVERGREEN SUCCULENT SHRUB OR SMALL TREE THAT CAN REACH 2 - 5 M IN HEIGHT, ALTHOUGH USUALLY AROUND 1,5 - 2 M IN A GARDEN SETUP.

2. WHY PLANT A SPEKBOOM?

Although spekboom is not endemic (naturally occurring in Cape Town), it is internationally renowned due to its excellent ability to absorb carbon dioxide from the atmosphere. Planting spekboom is unfortunately not the answer to prevent climate change. However, it (and other plants) can play a role in offsetting some carbon dioxide emissions.

Carbon dioxide is one of the major greenhouse gases responsible for warming the earth's atmosphere; it is produced by the burning of fossil fuels. In order to prevent or reduce the worst effects of climate change, it is necessary to reduce our excess carbon emissions to zero within the next three decades. The most important intervention is reducing the use of fossil fuels for generating electricity and powering transport and replacing these with clean and renewable energy sources. Carbon sequestration (removing carbon dioxide from the atmosphere through habitat restoration) or planting targeted species like spekboom, has a smaller role to play.

The spekboom has the ability to make use of two different photosynthetic pathways. When conditions are favourable, it manufactures its food to sustain growth by using the same method (pathway) that most other plants use. When conditions are however not favourable and other plants have to shut down and wait for sufficient rain, the spekboom can switch to a different pathway called Crassulacean Acid Metabolism (CAM), whereby it can continue to grow and absorb significant amounts of carbon dioxide despite adverse climatic conditions.

3. IMPORTANT TO NOTE

Since spekboom does not naturally occur in Cape Town, it should not be planted in any nature reserves, natural areas, or sites of conservation importance in the city.
The natural vegetation of the region has an equally important role to play in carbon sequestration and ecosystem restoration to improve valuable ecosystem services.

Shading of streets and buildings is an important aspect of climate change adaptation in dense urban areas which are subject to the 'heat island' effect. In a dense urban setting, spekboom does not provide the same climate change adaptation benefits as planting trees, as it is not able to provide as much shade, due to its smaller size.

4. GROWING OR MULTIPLYING YOUR SPEKBOOM

Spekboom propagates very easily, and a broken-off branch can quickly grow roots and create a whole new plant.

STEP 1

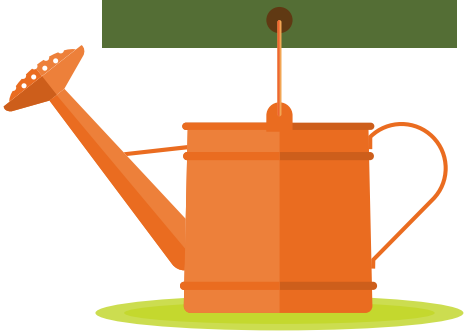
Find a healthy, vigorous mother plant to take a cutting from – your plant will be genetically identical. Take a stem cutting, approximately 10 to 50 cm in length with a clean, sharp knife or secateurs.

STEP 2

Remove any leaves from the bottom third of the cutting. To plant, push the cutting into well-drained soil, up to where the leaves start. Water immediately.

STEP 3

The warmer months from spring to autumn are the best months to take cuttings.

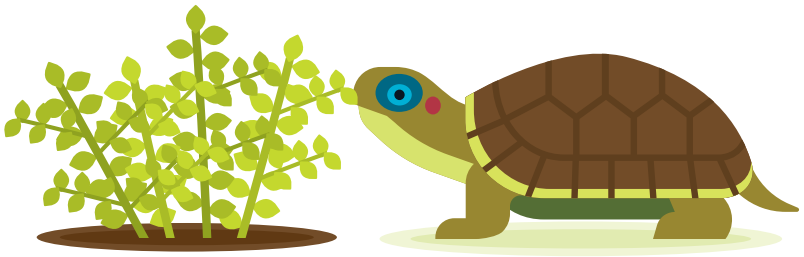


STEP 4

In winter rainfall areas, spekboom should be watered more often in summer and less in winter. During the winter rainfall period, watering is not necessary unless leaves are shrivelled.

5. SPEKBOOM USES

- The leaves of the spekboom **can be eaten** and have a sour or tart flavour. It is heavily browsed by game and domestic stock and highly favoured by tortoises and elephants.
- The spekboom has also been indicated as a **soil binder** for preventing soil erosion.
- The leaves are used to **quench thirst** – sucking a leaf is used to treat exhaustion, dehydration and heat stroke.
- Crushed leaves can be rubbed on blisters and corns on the feet to **provide relief**.
- The leaves are chewed as a **treatment for a sore throat and mouth infections**, while the astringent juice is used for **soothing ailments** of the skin such as pimples, rashes and insect stings.
- The juice is used as an **antiseptic** and as a treatment for **sunburn**.

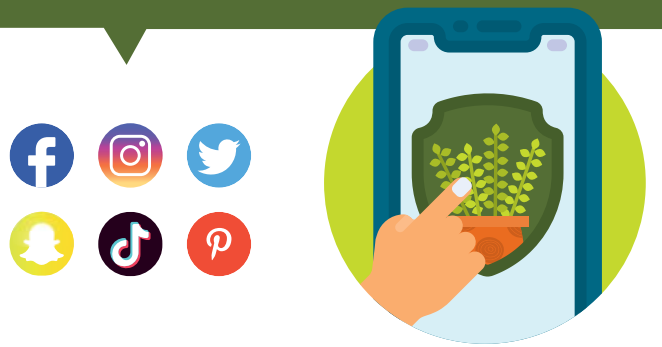


6. SPEKBOOM CHALLENGE

The Spekboom Challenge is a social media drive where South Africans everywhere are motivating each other to plant at least 10 spekbome in 2020.

The City's Newlands Nursery will be cultivating 5 000 spekboom trees. This initiative will also educate and increase awareness of the important role trees play in the urban environment.

THE CITY'S RECREATION AND PARKS DEPARTMENT ENCOURAGES EVERYONE TO JOIN THE CHALLENGE. **SHARE A PHOTO OF YOUR NEWLY PLANTED SPEKBOOM ON SOCIAL MEDIA WITH THE TAG #SPEKBOOMCHALLENGE.**



Reference: https://www.capetownetc.com/cape-town/Spekboom-challenge-aims-to-tackle-climate-change/

DEFINITIONS

Greenhouse gases: Are gases in the atmosphere that sustain life on earth by trapping the sun's heat. Without natural gases, mainly water vapour, carbon dioxide and methane, to trap the heat, earth would be too cold for plants and animals to survive. Modern human activity, burning fossil fuels, deforestation and intensive agriculture, has added huge quantities of carbon dioxide and other greenhouse gases that intensify this natural greenhouse effect, and traps more heat.

Carbon: Is a chemical element. It is stored all over the planet – in plants, soil, the oceans, even humans.

Carbon dioxide: Is a greenhouse gas. It has increased in the atmosphere through human activities such as burning fossil fuels (coal, oil and gas), solid waste, trees and other biological materials, and also as a result of certain chemical reactions in manufacturing processes. The atmospheric balance that keeps the climate stable is now disrupted, causing climate changes and more extreme weather events.

Photosynthesis: Is a process used by plants and other organisms to convert light energy into chemical energy that can later be used to help the plants and organisms grow. Carbon dioxide is used in the process and oxygen is released.

Photosynthetic pathways: Is the way in which plants photosynthesises. Plants have three photosynthetic pathways (C3, C4 and CAM), each in response to distinct environmental conditions, resulting in differences of plants' ecological patterns of growth and distribution.

Crassulacean Acid Metabolism (CAM): Is the special photosynthetic pathway used by plants that live in hot and dry climates to reduce the loss of water. Carbon dioxide is fixed at night, when it is cooler and not as dry, to limit the amount of water lost from the leaf stomata (openings).

Carbon sequestration: Is the process of capturing and storing carbon dioxide. It is one method of reducing the amount of carbon dioxide in the atmosphere with the goal of reducing global climate change.

Climate change adaptation: Is a way of anticipating the adverse effects of climate change and taking appropriate action to prevent or minimise the damage they can cause.

Heat island effect: Occurs when a city or built up area experiences much warmer temperatures than nearby rural or natural areas. The difference in temperature is to do with how the surfaces in each environment absorb and hold heat. The more man-made the surface is, the hotter it is. Growing urban populations worsens the heating effects of climate change.

Node: Is the part of the plant stem where the flowers, branches, and leaves first start to grow. The base of a bud, leaf, twig, or branch is always attached to a node, so this is one easy way to find them.

CITY OF CAPE TOWN
ISIXEKO SASEKAPA
STAD KAAPSTAD

Making progress possible. Together.