



Eerste uitgawe  
2023

# Koeda

## Pretoria Bonsai Kai

The word Koeda is Japanese and means: 'Graceful branch'. It is pronounced Ko-eda.

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- Voorsitter – Org Exley  
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### Van die redakteur

Many bonsai enthusiast had discovered bonsai through the “Karate Kid” films. Some were especially fond of the third movie in the series, which features dreamy shots of characters rappelling down a cliff face to collect a miniature Juniper. In the films, the wise karate instructor, Mr. Miyagi, practices the art of bonsai, and in people’s minds it came to represent a romantic ideal: the pursuit of perfection through calm discipline.

Enige idees, artikels of terugvoering rakende die nuusbrieff kan gegee word aan Jaco Kriek by:

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**“Bonsai is the slowest sculpture in the world, and there is, at times, doubt as to which is being sculpted, man or tree” -**

Theodore Sturgeon

## Vergadering van 7 Januarie 2023—Mini uitstalling



Bo: Hierdie Bergsering “Kirkia wilmsii“ het Louis 8 jaar gelede by Johan Ras gekoop.

Onder: Erika het hierdie “Pride of India” sowat 15 jaar en het hom as klein plantjie by ’n kwekery gekoop.

Heel onder: Louis het hierdie Kei appel, Davyalis cafra, sowat 15 jaar.





## Vergadering van 7 Januarie 2023—Mini uitstalling



Bo; Hierdie is 'n Septee, *Cordia caffra*, wat Louis sowat 16 jaar gelede as klein plantjie by 'n kwekery gekoop het.

Onder: Erika het hierdie "Chinese Hat", *Koromia* by die botaniese tuin gekoop en werk nou sowat 5 jaar aan die boom.



Links: Esther het die Kanniedood gewys. Daar was wurms in die stam. Sy het die deel uitgekerf, met gif gespuit, en toe die gat gestop met fyn houtskaafsels wat sy met houtlym gemeng het. Die gat is nou toe en sal hopelik heeltemal toe groei.

## Vergadering van 7 Januarie 2023—Mini uitstalling



Bo: Jaco het hierdie Ficus burtt davyi in 2011 van 'n steggie begin.

Regs: Hierdie Deurmekaarbos het Vorster in 2018 in die “windswept” styl gemaak, nadat hy Pieter du Plessis se praatjie oor “windswept” bygewoon het.



### ‘Tip of the month’ - Deur Esther van Aarde

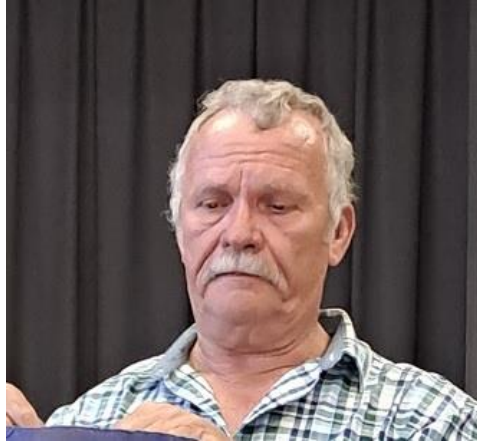


Esther vertel dat wanneer sy in die winter oor haar Akasia bome “frost net” opsit, die net dikwels skeur van wind asook wanneer sy dit afhaal. Die net haak aan die dorings vas.

Haar oplossing is toe om eers koerantpapier bo-oor die bome te sit en dan die net bo-op die koerant. Die dorings van die bome haak dan nie aan die net nie en sy kan die net gemaklik op sit en af haal.

## Vergadering van 7 Januarie 2023

Die tema van die vergadering was “Windswept’ en is deur Org Exley aangebied.



### Windswept

It is a very dramatic style caused by constant winds or gale force winds blowing in the same direction. With the windswept style we try and create something as it is in nature, a tree twisted, bend and broken by winds. Most of the time the trunk will lean in the direction that the wind is blowing in. The wind will force the branches to grow in the same direction as the wind. The reason for the branches growing in one direction is because the wind damages the new buds and growth on the side from where the wind comes from.

You can have branches growing in the direction from where the wind comes from, but they will be shorter and bend away from the wind. The foliage will be sparse due to the constant blowing of the wind. The branches will be bend and twisted not straight (unless you have gail force winds blowing 24 hours a day in a straight line). Depending on how the wind reaches the tree you will find different forms of windswept trees, the ones growing in the coastal areas, mountains, Freestate(plains), Gail force ext. In most cases the tree struggles to survive. Depending on where the tree is growing will determine the amount of branches needed and the form of the tree.

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## Vergadering van 7 Januarie 2023

### **Material**

Use material that will lend itself to this style. Do not use flowering material. Try and find trees with branches growing on the one side. When collecting trees for windswept in nature, see to it that the trunk and branches have movement in them.

Normally with collected material, you will not be able to bend them due to the age of the material. The roots must be strong and radiate all round the tree to show that it is clinging to the soil due to the strong winds. When working with trees with brittle branches, be very careful not to break the branches when extreme bends are made.

Junipers are excellent material for windswept styles. The branches are very flexible.

### **Styles**

Most styles can be used. But the ones most frequently used are the following; slanting, literati and group plantings.

### **Containers**

The material that you are using, will determine the container. If it is small to medium sized trunks shallow containers will be used. Trees with long flowing branches will have a container that is long as well. For thick heavy trunks you need deeper containers. The tree will always be planted to the one side of the container with the branches flowing over the open space in the container. Flat rocks or slate can also be used.

### **Coastal or mountain Windswept**

Branches will grow on all sides of the trunk but will be bent to the side away from the wind. If the tree is growing on the side of a dune where the wind is coming from the bottom blowing upwards, the flow of the branches will be in the same direction as the wind, upwards. If the tree grows on the other side of the dune where the top of the tree catches the wind you will see that the bottom branches grow normal to the side, but the higher you move up the tree the branches will start moving in the direction of the wind. The branches on the sheltered side can be longer than on the side from where the wind comes from.

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## Vergadering van 7 Januarie 2023

### Freestate windswept

These are the trees growing in open flat country. There are no mountains to divert the wind upwards. With this style you will have branches growing flatter or even downwards due to the wind coming over the open country side. You will have a lot of movement, up and down and to the sides in the branches.

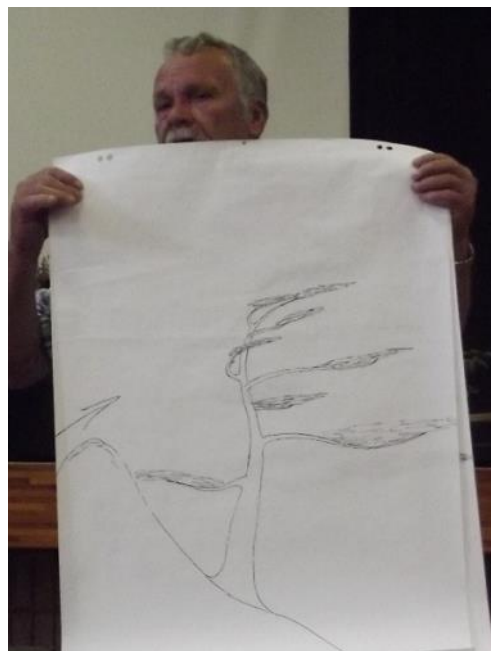
### Gale force windswept (sudden gust)

This is a typical tree growing in a ravine in the mountains where you will get gale force wind blowing from the one side, normally from the bottom upwards. The sand will be blown against the tree and the bark on the one side of the tree is removed. You will have broken branches and maybe the crown of the tree will be missing. You will have a few living branches away from the wind. This lends itself to the Literati style, by using one branch hanging downwards and a few side branches with small foliage pads.

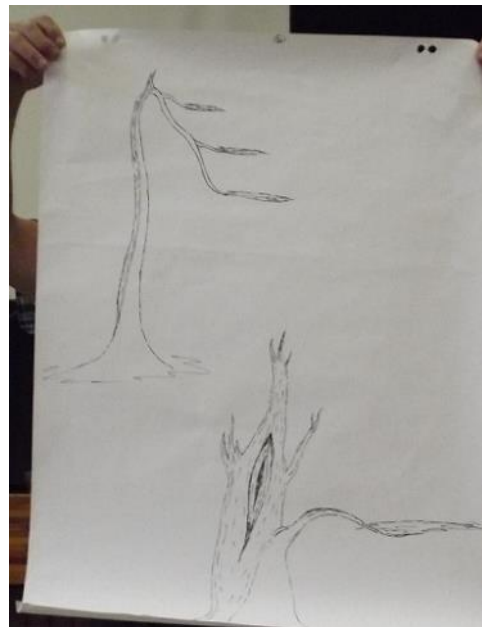
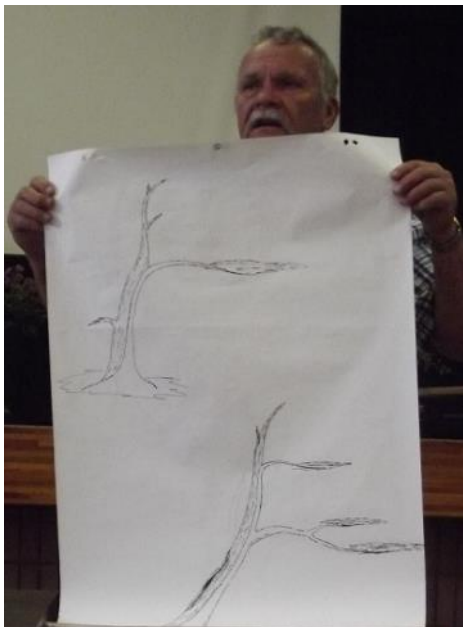
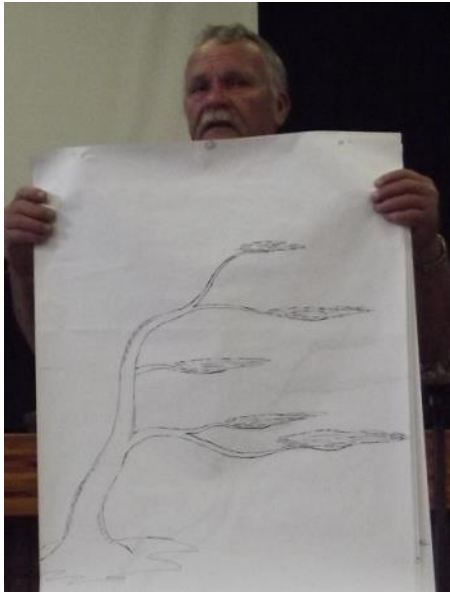
### Temporary windswept

Temporarily windswept trees are created when you have sudden strong winds blowing for a short time. Branches on the sides and where the wind comes from are bend. The major branches will only have slight bends in them.

**Thank you**



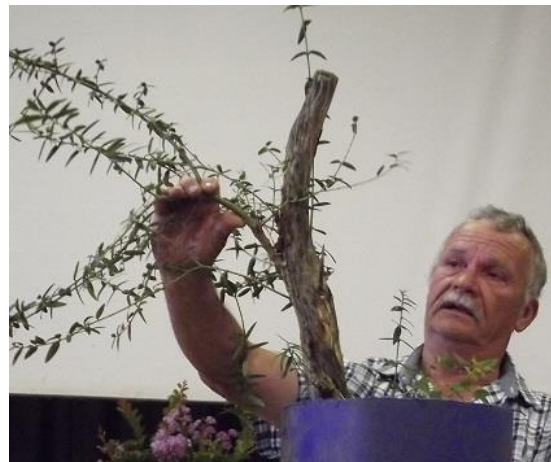
## Vergadering van 7 Januarie 2023



After the presentation, Org worked on a couple of trees to style them into windswept. See following page.



## Vergadering van 7 Januarie 2023



## Vergadering van 4 Februarie 2023—Mini uitstalling





## Vergadering van 4 Februarie 2023—Mini uitstalling



### ‘Tip of the month’ - Deur Christa Vermaak



Christa het raad gegee oor instrumente wat sy gebruik wanneer sy water of voeding toedien op haar bonsai. Sy sê dat wanneer sy nuwe plantjies of saad plant jy baie versigtig moet wees met water gee, anders kan jy die saad of plantjie versteur. Sy het ’n kommersiële prop gewys met baie fyn gaatjies wat jy op ander bottels kan skroef. Sy maak ook haar eie proppe deur baie klein gaatjies in die prop te boor of druk. Christa het ook ’n rubber ‘bal’ gewys waarmee jy water of voeding mee kan opsuig en dan versigtig weer spuit.

Die groen instrument (heel regs) is ’n spuit wat in ’n bottle kan druk en waarmee jy dan met ’n pomp aksie versigting kan spuit.



## Vergadering van 4 Februarie 2023

### BASIESE ANATOMIE EN FISILOGIE VAN 'N BOOM

PRAATJIE DEUR LOUIS VD WALT: PRETOTIA BONSAI KAI



#### INLEIDING

- 'n Boom is 'n baie komplekse lewende organisme
- Bome word deur die meeste mense as vanselfsprekend aanvaar as 'n plant in die natuur of tuinornament
- Daar is egter baie mense wat 'n passie het vir bome, soos byvoorbeeld ons bonsai nuts. Maar ook mense wat nie bonsai entoesiaste is nie. Daar is mense wat bome as heilig beskou en selfs met hulle kommunikeer. Jy kry ook die sogenaamde “tree huggers” wat energie van 'n boom kan aanvoel as dit omhels word.
- Dit is nie nodig vir 'n bonsai kunstenaar om diepgaande botaniese kennis van 'n boom te hê nie, maar 'n basiese kennis van hoe 'n boom werk kan wel behulpsaam wees.

#### BELANGRIKE ASPEKTE VAN BOME

- Bome is die longe van planeet aarde. Hulle neem koolstuwgas uit die atmosfeer en gee lewendgewende suurstof in die atmosfeer. Die woude in veral die Amazone gebied is onmisbaar en as dit vernietig word sal ons vergaan.
- Bome word aangeplant en is uiters belangrik vir konstruksie en meubels. Baie mense op aarde is afhanklik van hout vir energie om kos te kook en warm te kry.
- Die waarde van bome is legio en alles kan nie hier bespreek word nie.

## Vergadering van 4 Februarie 2023

### FOTO'S VAN 'N PAAR BOOMWONDERS



Olyfbome in die Midde Ooste, 4000 tot 6000 jaar oud.



Californiese Rooihout.

## Vergadering van 4 Februarie 2023

### FOTO'S VAN N PAAR BOOMWONDERS



Species: Great Basin Bristlecone Pine (*Pinus longaeva*).  
Location: Inyo county, California, USA.  
Still alive : Yes. Age: 4850 Years.



Bristlecone Pine in California's White Mountains. Approximately 4000 years.

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## Vergadering van 4 Februarie 2023

### FOTO'S VAN N PAAR BOOMWONDERS



Vanaf die vyf duisend jaar oue Olyfboom tot die reusagtige Kaliforniese Rooihout tot hierdie (regs) miniatuur bonsai boompie het dieselfde basiese anatomie en funksies.



Montezuma Cypress: Mexico

## Vergadering van 4 Februarie 2023

### FOTO'S VAN N PAAR BOOMWONDERS



Die hidroliese krag in 'n boom kan rotse oopkraak.

### WAT IS ANATOMIE EN WAT IS FISIOLOGIE

- DEFINISIE VAN ANATOMIE

⇒ Dit is in kort die dele van 'n boom bv wortels, stam, takke, blare, blomme en vrugte.

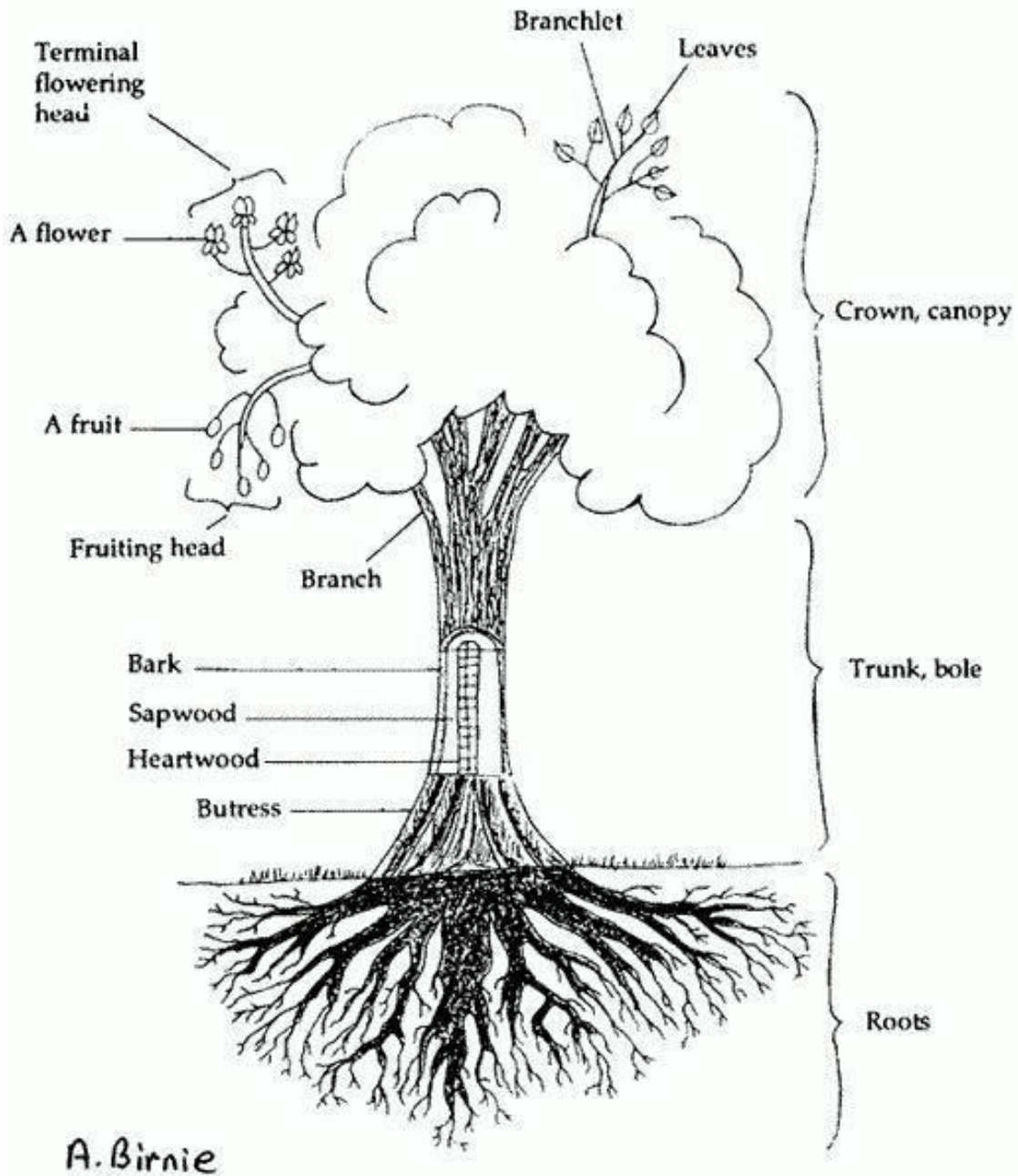
- DEFINISIE VAN FISIOLOGIE

⇒ Dit is kortliks die prosesse wat plaasvind in die onderskeie dele wat die boom as lewende organisme laat funksioneer.

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## Vergadering van 4 Februarie 2023

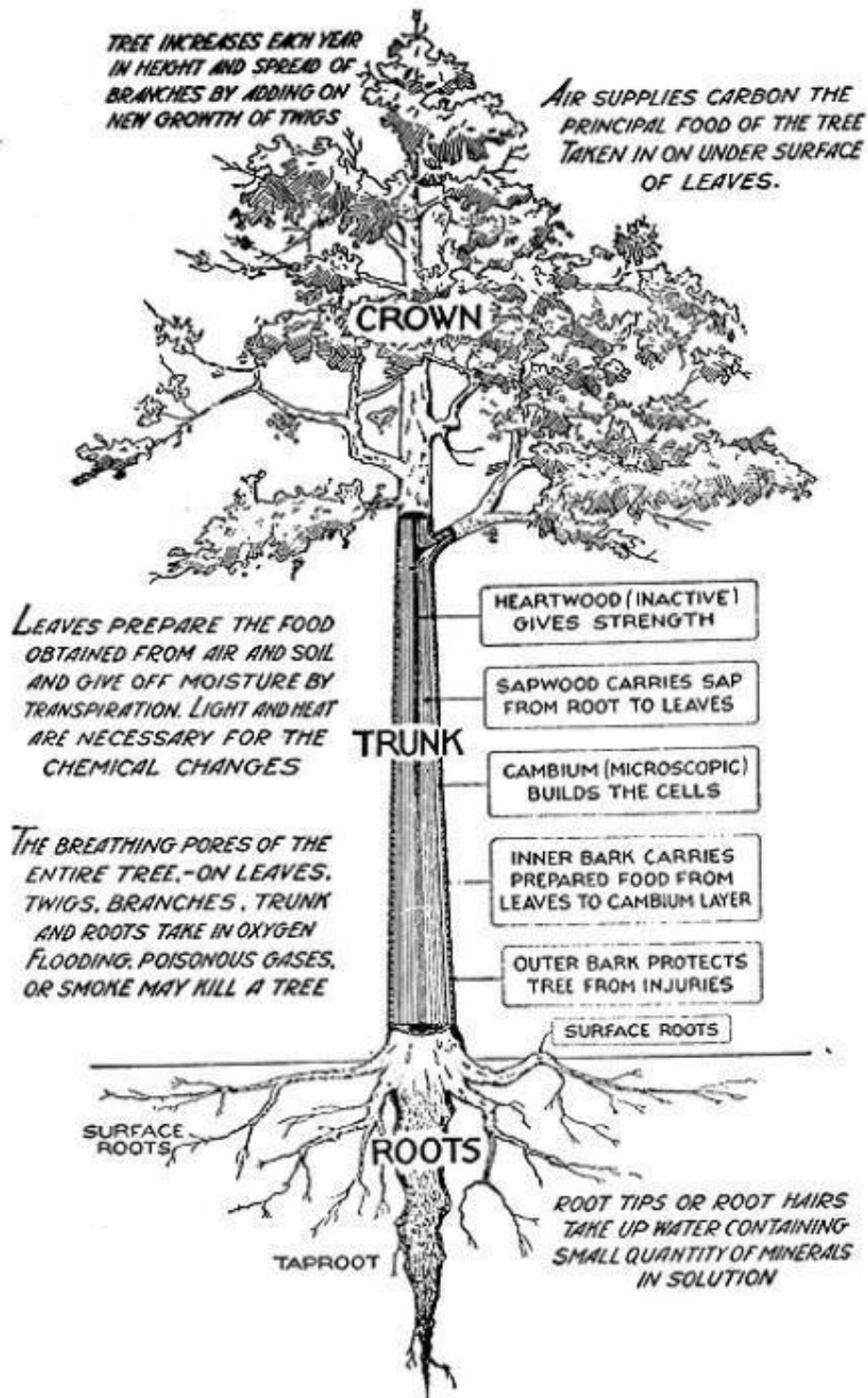
### ANATOMIE VAN N BOOM





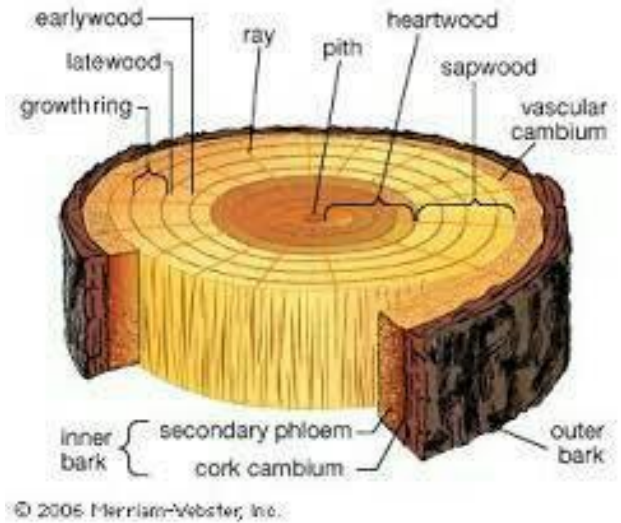
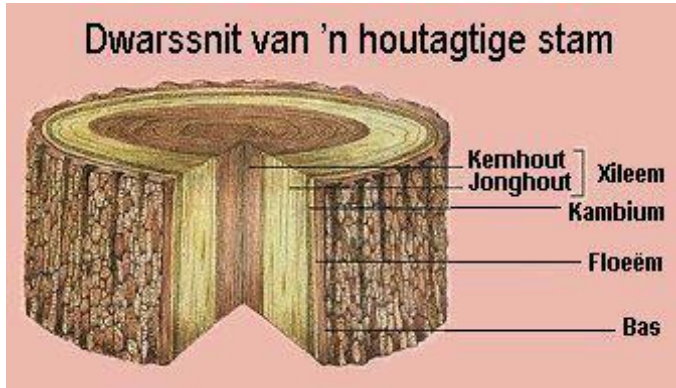
Vergadering van 4 Februarie 2023

ANATOMIE VAN N BOOM



## Vergadering van 4 Februarie 2023

### ANATOMIE VAN DIE STAM

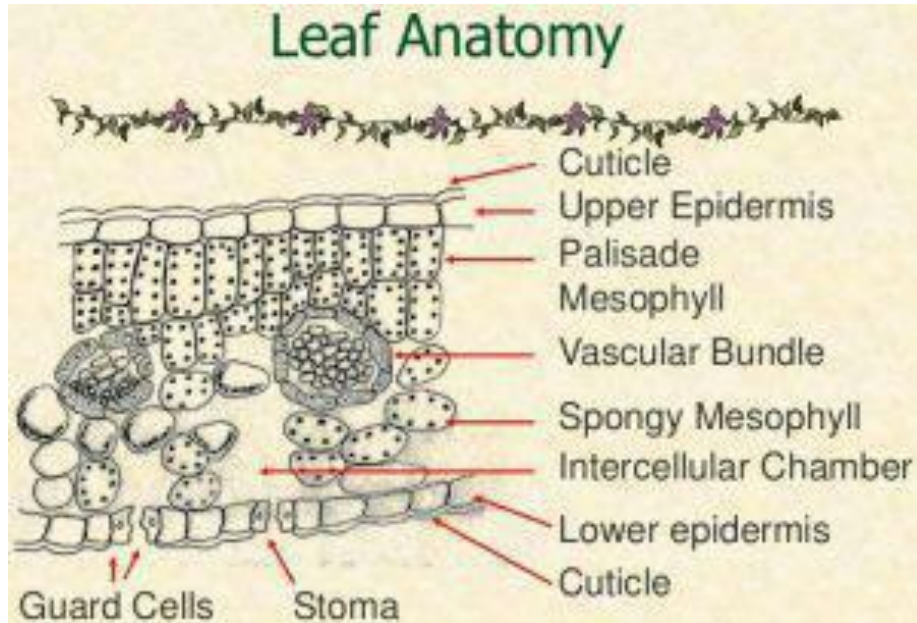


### ANATOMIE VAN DIE BLAAR



## Vergadering van 4 Februarie 2023

### ANATOMIE VAN DIE BLAAR



⇒ Blare het drie belangrike funksies naamlik, fotosintese, transpirasie en respirasie.

#### 1. Fotosintese

⇒ Die blaar se belangrikste funksie is om sonlig te absorber vir energie om dan koolsuurgas om te skakel in koolhidrate en suurstof.

#### 2. Transpirasie

⇒ Transpirasie is die beweging van water deur 'n plant vanaf die wortels tot in die blare vanwaar dit deur die huidmondjies in die atmosfeer beweeg. Dit vind plaas dmv osmose. Meer as 97% van water wat deur die wortels opgeneem word, word so in die atmosfeer vrygestel. Faktore soos temperatuur, wind, relatiewe humiditeit ens speel 'n rol in die tempo van transpirasie.

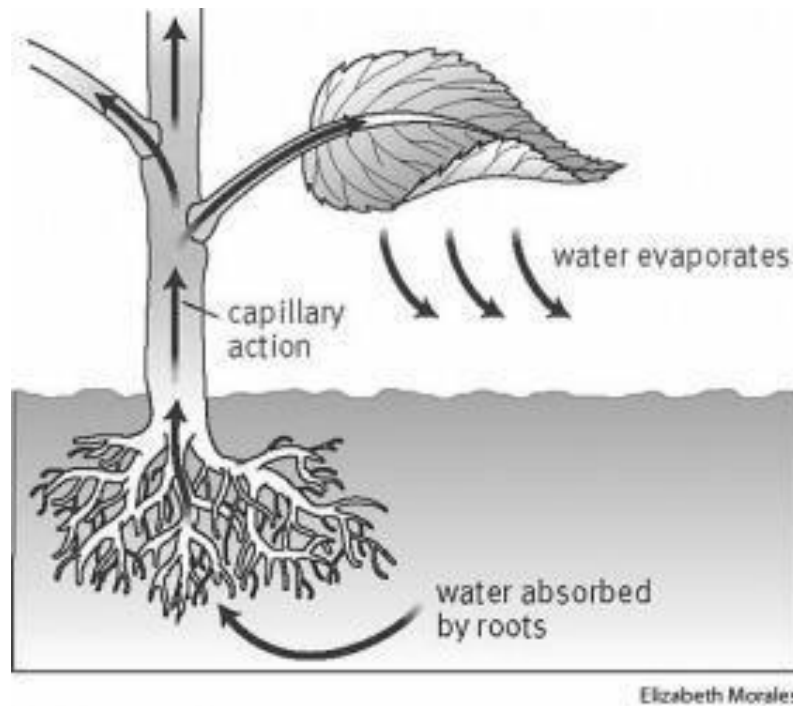
⇒ Die water vanaf die wortels bevat ook die opgeloste nutriente.

⇒ Hierdie beweging vind plaas in die floemselle. Dit is hoofsaaklik 'n osmose proses.



## Vergadering van 4 Februarie 2023

### Diagrammatiese voorstelling van transpirasie



### PLANTRESPIRASIE

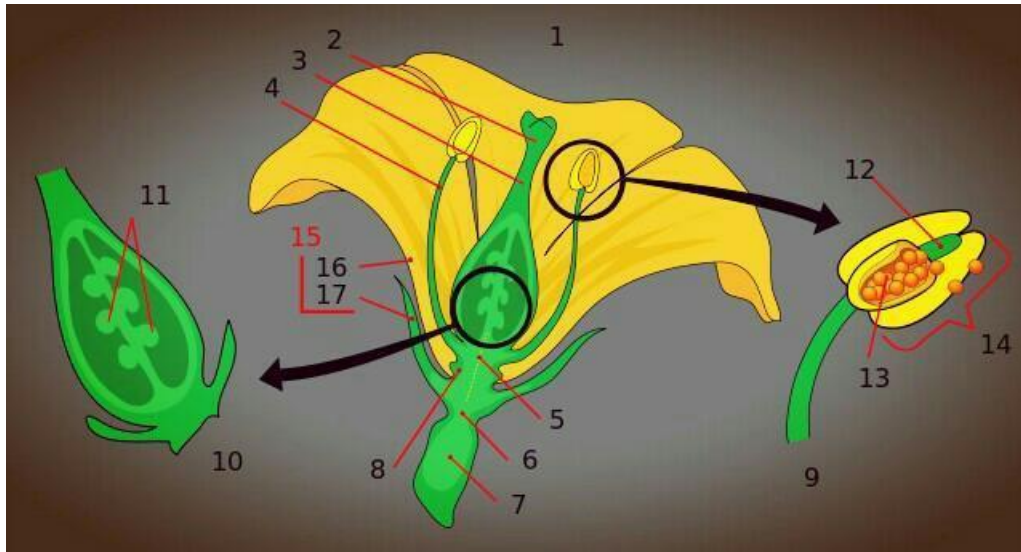
- Dit is die proses waar suikers in die plant, wat deur fotosintese gemaak is, met suurstof reageer om koolstofdiksied, water en energie te vorm vir die plant om te kan groei en voort te plant.





## Vergadering van 4 Februarie 2023

### ANATOMIE VAN 'N TWEESLAGTIGE BLOM



Die anatomie van 'n blom.

1. Volwasse blom
2. Stempel
3. Styl
4. Helmdraad
5. Blomas
6. Knoop
7. Stingel
8. Heuningkelk
9. Meeldraad
10. Vrugbeginsel
11. Saadknoppie
12. Helmbindsel
13. Mikrosporangium
14. Helmknoppie
15. Blomdek
16. Kroonblaar / blomkroon
17. Kelkblaar / blomkelk



## Vergadering van 4 Februarie 2023

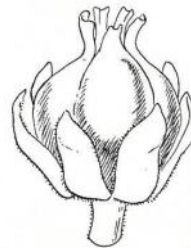
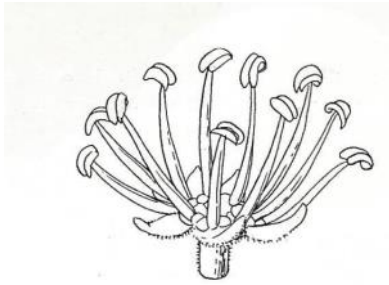
### BLOMME VAN DIE KEI APPEL—MANLIK EN VROULIK OP VERSKILLENDE BOME



MANLIK



VROULIK



### DIE ROL EN FUNKSIONERING VAN DIE GROEIHORMOON: AUXIN

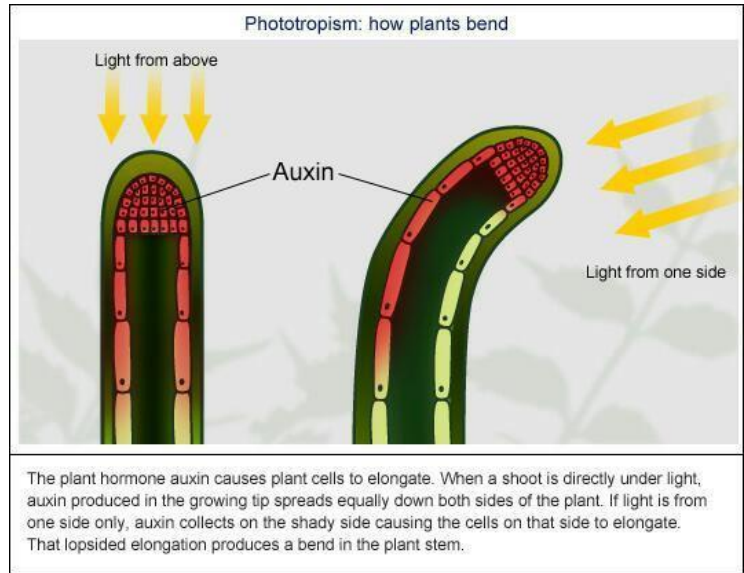
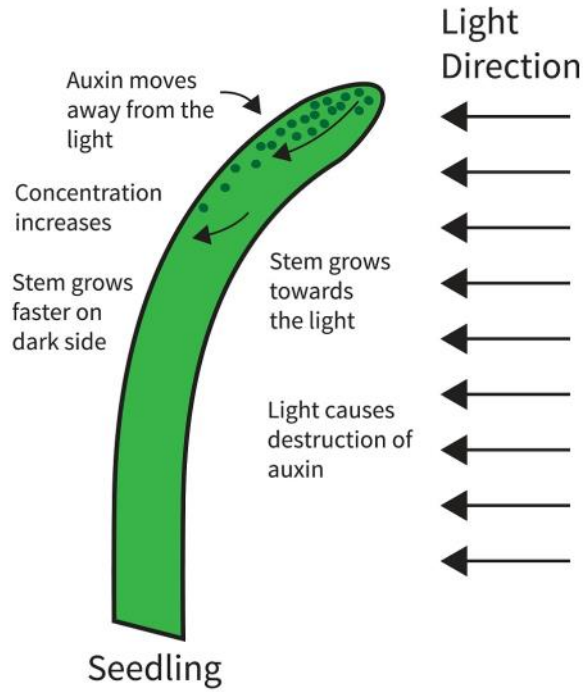
In botany, apical dominance is the phenomenon whereby the main, central stem of the plant is dominant over (i.e., grows more strongly than) other side stems; on a branch the main stem of the branch is further dominant over its own side branchlets.

Typically, the end of a shoot contains an apical bud, which is the location where shoot growth occurs. The apical bud produces a hormone, auxin, (IAA) that inhibits growth of the lateral buds further down on the stem towards the axillary bud. It was first discovered in 1934 that the plant hormone auxin likely regulates apical dominance. Auxin is predominantly produced in the growing shoot apex and is transported throughout the plant via the phloem and diffuses into lateral buds which prevents elongation.

When the apical bud is removed, the lowered IAA concentration allows the lateral buds to grow and produce new shoots, which compete to become the lead growth.

# Vergadering van 4 Februarie 2023

## Movement of Auxin



## VOORBEELD VAN VERDIGTING DEUR GROEIPUNT VERWYDERING



Februarie 2017



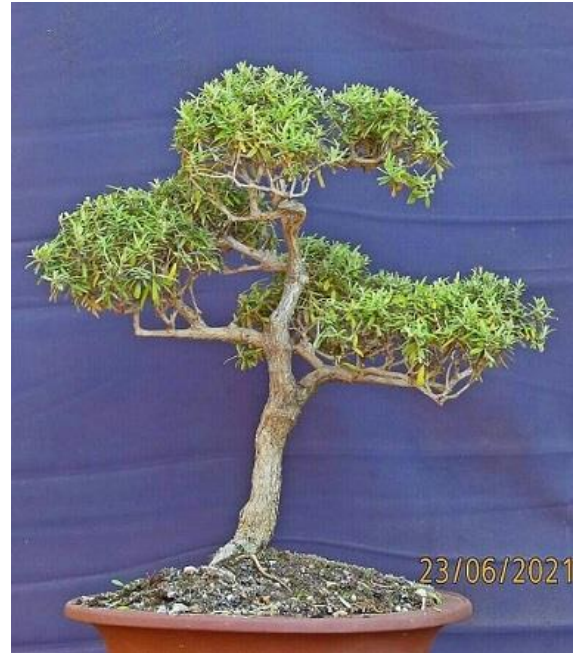
Oktober 2019

## Vergadering van 4 Februarie 2023

### NOG N VOORBEELD VAN DIE GEBRUIK VAN APICAL DOMINANSIE



Groeipunte nie gereeld verwyder nie



Groeipunte geruime tyd al gereeld verwyder

### ANATOMIE VAN N GROEIPUNT OF OGIE

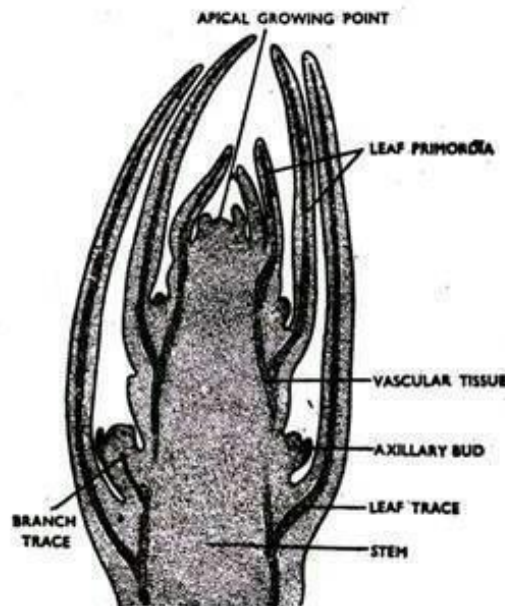
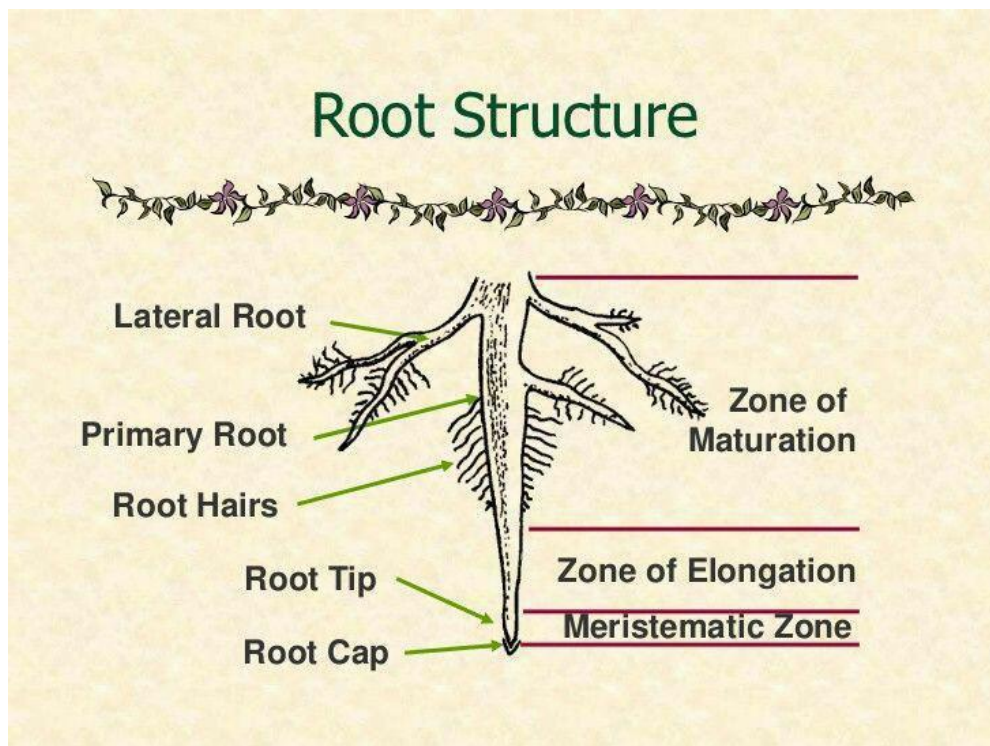
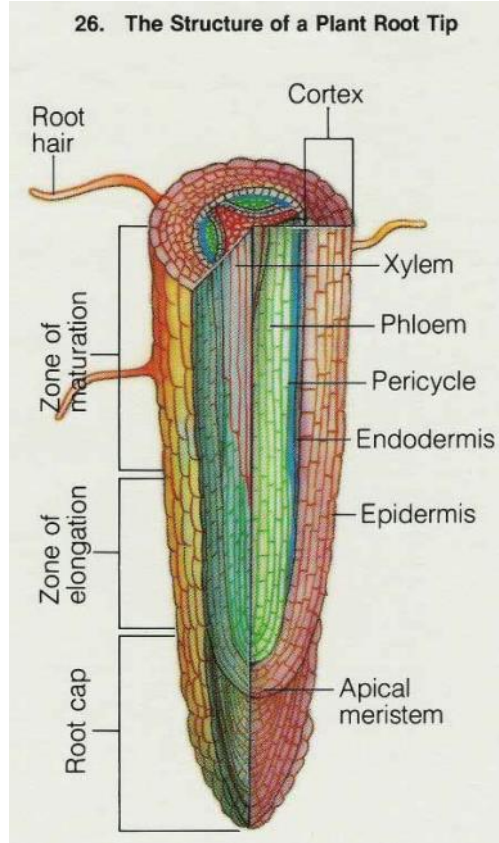


FIG. 66. L.s. of a vegetative bud.



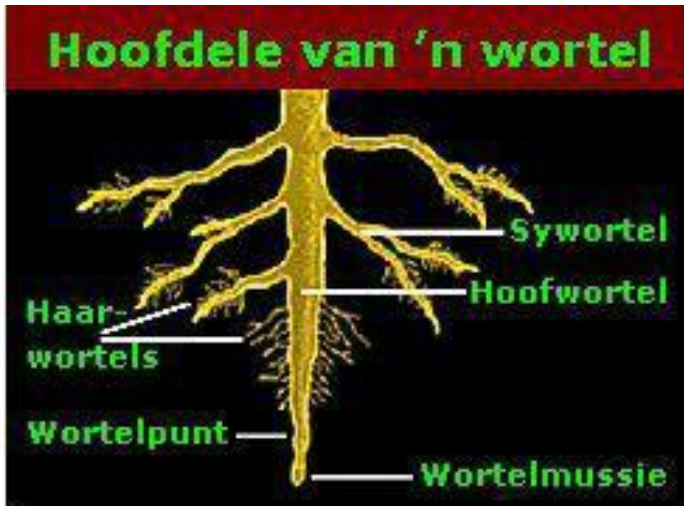
# Vergadering van 4 Februarie 2023

## ANATOMIE VAN WORTELS



## Vergadering van 4 Februarie 2023

### ANATOMIE VAN WORTELS



### BASIESE BEHOEFTE VAN WORTELS

- Suurstof
- ⇒ Los, ongekompteerde grond met voldoende lugholtes sal verseker dat daar genoeg suurstof vir die wortels is om hul funksie te verrig.
- Water
- Nutriente

## Vergadering van 4 Februarie 2023

### BLAARVERLIES

Wanneer die weer kouer word, moet die boom suinig begin werk met sy water, want in die ysige winter kan water nie so maklik uit die grond opgeneem word nie.

Omdat blare gedurig waterdamp afgee, moet 'n plan met hulle gemaak word. In die herfs word hulle van die res van die boom afgesny—amper soos 'n ledemaat wat afgebind word. Hulle kry geen water of voedingstowwe van die wortels nie ek kan nou nie meer chlorofil produseer nie. Dis wanneer die pragtige geel, oranje en rooi herfskleure te voorskyn kom—die helder kleure is altyd teenwoordig, maar word eers sigbaar as die bladgroen verdwyn.

Met verloop van tyd word die blare heeltemal droog en val af. Al het bladwisselende plante geen blare om in die winter kos te maak nie, het hulle genoeg kos in die stam en wortels opgegaar om te oorleef.

Die blare van die volgende seisoen vorm in knoppies onder die beskermde skutblare. Wanneer die lente met sy langer sonskyndae aanbreek en meer water beskikbaar is, groei die blaartjies uit hul skuilplek - die wonder van 'n nuwe seisoen.





## Vergadering van 4 Februarie 2023

### HOEKOM IS DIT VOORDELIG VIR DIE BONSAI KWEKER OM N BASIESE BEGRIP VAN PLANT ANATOMIE EN FISIOLOGIE TE HÊ?

- Kennis van auxins sal jou in staat stel
- ⇒ Om fyngroei (ramifikasie) te optimiseer
- ⇒ Om intermodale lengtes te verkort
- ⇒ Om blaarverkleining te optimiseer
- ⇒ Om goeie wortelstelsel te bewerkstellig

### DIE ROL VAN MAKRONUTRIENTE IN PLANTE

- **Nitrogen** is used by **plants** for lots of leaf **growth** and good green colour. Phosphorous is used by **plants** to help form new roots, make seeds, fruit and flowers. It's also used by **plants** to help fight disease. **Potassium** helps **plants** make strong stems and keep **growing** fast.

### DIE BELANGRIKHEID VAN SPOORELEMENTE

- Belangrike spoorelemente: Boor, koper, mangaan, molibdeen en sink.
- Hulle is noodsaaklik vir baie funksies in plante vir normale ontwikkeling en gesondheid van plante
- Veral vir bonsai waar nutriente uitgeloog word is aanvullings met spoorelemente baie belangrik.

### BAIE DANKIE

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<b>Sorgskedule</b> Seisoen: Season:		Mid-somer Mid-summer	Laat somer Late summer	Vroeg herfs Early autumn	Mid-herfs Mid-autumn	Laat herfs Late autumn	
<b>Maand:</b> <b>Month:</b>		<b>Jan</b>	<b>Feb</b>	<b>Mrt</b> <b>Mar</b>	<b>Apr</b>	<b>Mei</b> <b>May</b>	
<b>Die boom se jaarsiklus</b> <b>The tree's yearly cycle</b>		Kort dormante periode, konsolideer nuwe groei Short period of dormancy, consolidate new growth			Berey voor vir dormante periode Prepare for winter dormancy		
<b>Ak s i e / A c t i o n</b>	Bonsai van saad Bonsai from seed			Vir beste resultate gebruik vars saad For best results, use fresh seed			
	Bonsai van steggies Bonsai from cuttings						
	Verplant Potting						
	Herpot met wortelsnoei Repot with root pruning				Immergroen bome Evergreen trees		
	Vormsnoei Formative pruning						
	Knyp groeipunte Pinch growth points						
	Bemesting Fertilizer						
	Insekdoders Insecticide						
	Somerbeskerming Summer protection						

<b>Sorgskedule</b> Seisoen: Season:		Vroeg winter Early winter	Mid-winter	Laat winter Late winter	Vroeg lente Early spring	Mid-lente Mid-spring	Laat lente Late spring	Vroeg somer Early summer
<b>Maand:</b> <b>Month:</b>		<b>Jun</b>	<b>Jul</b>	<b>Aug</b>	<b>Sep</b>	<b>Okt</b>	<b>Nov</b>	<b>Des</b> <b>Dec</b>
<b>Die boom se jaarsiklus</b> <b>The tree's yearly cycle</b>		Dormant gedurende die winter Winter dormancy			Herontwaking, nuwe groei Reawakening, new growth			Nuwe groei New growth
<b>Ak s i e / A c t i o n</b>	Bonsai van steggies Bonsai from cuttings							
	Verplant Potting							
	Herpot met wortelsnoei Repot with root pruning				Immergroen en bladwisselende bome Evergreen and deciduous trees			
	Vormsnoei Formative pruning							
	Knyp groeipunte Pinch growth points							
	Bemesting Fertilizer							
	Insekdoders Insecticide							
	Somerbeskerming Summer protection							
	Winterbeskerming Winter protection							

The individual opinions expressed in this issue are not necessarily those of the Pretoria Bonsai Kai.