PLANT SMART

A Guide to Choosing the Right Tree for your Garden

Cape Town has historically been bequeathed a magnificent urban forest by earlier generations, most notably the avenues of oaks and London planes in the Southern Suburbs and City Bowl, the garden city suburbs of Pinelands and Meadowridge, as well as many beautiful tree-filled parks such as Maynardville, the Ardene Gardens, De Waal park and the Company's Garden.

The benefits of this urban forest are many – trees produce oxygen, absorb pollution, baffle traffic noise, increase property values, and provide shade, wind protection and privacy. Crucially, they also form an integral part of Cape Town's heritage.

This urban forest has been declining due to many things – trees are felled to make way for new property developments, damaged during the installation of fibre and other services, stressed due to the recent drought years, and just dying off because of old age.

But now, an altogether more serious threat has arrived, one that over the next 5 to 10 years is expected to kill up to 40 percent of Cape Town's trees, changing the cultural landscape we have come to love and depend on.
The culprit is a tiny insect called the polyphagous shot-hole borer (PSHB), a wood-boring beetle from Southeast Asia that tunnels deeply into living trees, disrupting their vascular system and ultimately starving them of water and nutrients.

While PSHB has been found in over 130 plant species in South Africa, its preferred hosts are trees from the maple, oak, plane, fig, willow and poplar families.

This means that here in Cape Town the species most at risk are the box elder (actually a type of maple), London plane and, perhaps most tragically of all, the beloved English oaks that have graced the Cape for over 350 years.
In Somerset West, where PSHB has been active for more than five years, whole avenues of oaks have already been felled. Capetonians need to prepare for the same.

So, what can we do?
There are currently no effective chemical treatments for PSHB. Scientists are working hard to develop a pesticide/fungicide, but in the meantime, we can't just put our heads in the sand and hope that a solution comes along in time.

This is why the purpose of this article is to help you choose the right tree (well, lots of them actually) for your garden, as well providing some tips on planting and caring for trees.

WHAT TREES SPECIES SHOULD YOU PLANT?

Let's start with the ones you definitely should not be planting.
Obviously Box elders, English oaks and London planes are out. Other species that are known to be at high risk of PSHB infestation include anything from the maple family (Chinese maple, Japanese maple), liquidambars, coral trees, avocado trees and willows.

Beyond this do-not-plant list, things get a bit tricky.
The reality is that there is still disagreement over which trees are most suitable for replanting.

It appears that resinous species like Stone pines and eucalyptus trees have a natural resistance to PSHB, but these are generally not suitable for urban streets and gardens.
Over time it will become clearer which other species are the most resilient, but TreeKeepers' stance is that it's better to get planting now rather than wait until we have more data.

INDIGENOUS OR EXOTIC?

TreeKeepers has always believed that the "indigenous good, exotic bad" argument is misguided.
For one, there is a huge difference between listed invasive aliens such as Port Jackson or Black wattle, and non-invasive exotic species like Carob trees or Stone pines.
Many exotic species also grow really well in Cape Town, and can be very hardy and drought resistant – exactly what we should be planting given the likelihood of further droughts. Some summer rainfall indigenous trees are well adapted to the Western Cape, but don't limit yourself to only planting local species.

The number-one priority should be to keep Cape Town green and save our urban forest, by choosing the right tree – indigenous or exotic – for your garden and your needs.

Let's get planting!

KEY THINGS TO CONSIDER WHEN SELECTING A TREE:

- **Size** – the size of your garden is obviously an important consideration. Future owners may not appreciate you planting a Natal mahogany or Norfolk pine if you live in a townhouse. On the other hand, if you live on a large property and want to leave a "legacy tree" for future generations to enjoy, then a Natal mahogany or Norfolk pine is perfect!

- **Growing speed** – the downside of such "legacy trees" is that they are usually slow growing. So if you need something to screen you from the neighbours or fill the gap left by a PSHB victim, then a faster-growing tree is preferable.

- **Deciduous or evergreen** – trees that lose their leaves in winter ("deciduous") are ideal for those places where you want shade in summer and sunlight during winter (for example a north-facing bedroom or patio).
  On the other hand, if you want year-round shade or need a good screening tree for privacy, then go for an evergreen tree.

- **Waterwise** – this is obviously a key thing to consider, given that the Cape is likely to experience hotter, drier summers in future. At the same time, it's probably safe to plant more water-hungry species in wetter suburbs like Newlands and Claremont.

- **Local conditions** – most trees are very particular about the environment they are planted in, so make sure you select species that are suited to your suburb.
  Wind is obviously a major consideration here in the Cape, so if you live in an exposed place then be sure to select species that can survive the Southeaster.
  And if you live in Noordhoek or Muizenberg, for example, you will want species that can tolerate coastal conditions.

- **Other factors** – there are many things that can play a part in your choice of tree.

  Perhaps you want something that attracts birds, butterflies and insects, or has particularly showy foliage or flowers.
  If you have young children then you probably don't want a tree that produces a lot of messy fruit.
  And if you are planning to plant a tree close to a building, wall or driveway, be sure to find out how aggressive the roots are and leave enough space for it to grow to maturity.

- **There are several factors that we haven't covered** – such as soil type and availability, so we recommend that you still get advice from your local nursery or tree expert before making a decision.

TIPS ON BUYING, PLANTING AND CARING FOR YOUR TREE:

WHAT SIZE OF TREE TO BUY?

Trees are sold according to the size of the bag they are grown in, with larger bags obviously holding older (bigger) trees. Nurseries normally offer a range from between 10 – 100 litres, although it is possible to buy mature trees in bags of up to 4 000 litres.
We recommend 50 litres as the minimum size; smaller than this and you're going to wait a long time before your tree grows to a decent height.

PLANTING THE TREE:

- **Dig the hole** – the hole should be the same depth as the bag, and around three times as wide. It's very important that the hole is not too deep as burying the trunk base can cause it to rot or get diseased. Next, scrape the sides of the hole to loosen up any hard ground as this will promote faster root growth in a lateral direction, but make sure the base of the hole is solid so the new tree cannot drop down too much as the soil settles.

- **Position the tree** – with the tree still in the bag, place it in the hole to check that it is the right depth. You want the soil level in the bag to be at the same level as the surrounding soil. If the tree has a particularly attractive side, or you are worried that a branch might block a pathway or grow into a wall, then orientate it to your liking.

- **What about compost?** – Cape Town has particularly poor soils with low organic and mineral content, so it is important to improve the soil when planting by providing good quality fine organic compost and a handful of bone meal. Turn this into you existing excavated soil in a 50:50 mix.

- **Inspect the roots** – next, remove the tree from the hole and cut off bag with a pair of sturdy scissors or secateurs. Now comes one of the most important stages of planting a tree: inspecting the roots.
  If the plant is rootbound i.e. the roots are densely bound in a circular pattern, or have started growing in the shape of the bag, then this will significantly slow the growth of the tree.
  If this is the case, use your fingers, or even a trowel or knife, to gently break away the soil and release the roots on the outer edge off the root ball. Be careful to keep the central part of the ball firm and retain its soil.

- **Position the tree** – once you are happy that the hole is at the right depth and the roots are free, place the tree back into the hole and seat it in the position that you chose earlier.
  Be sure to inspect the tree from several angles to ensure that it is pointing straight up.
  If the ground is dry, give the base of the hole a good water before the tree goes in.

- **Fill the hole** – making sure the tree remains in position, backfill the hole with the soil-compost mix that you dug out and prepared earlier, gently compressing it every now and then to stabilize the tree and help remove air pockets. Once the hole is filled, create a reservoir shaped like a saucer around the tree so that water is guided towards the roots from the surrounding area.

- **Water the tree** – once the tree is planted, you need to give it a thorough watering. As a rule of thumb, triple the volume of the bag is a good amount of water to apply. Watering doesn't just provide an important first drink for your new tree; it also helps the soil to settle, removing air bubbles and ensuring good soil-to-root contact.

- **Add mulch** – mulch is any organic material placed on the surface of the soil around the tree to help retain moisture and prevent weeds and pests. Wood or bark chips work well; rough compost is also fine. Fill the water reservoir with a 5 – 7.5 cm layer of mulch, making sure to keep it away from the trunk to avoid rot or disease.

- **Stake the tree** – studies have shown that trees develop stronger trunks and roots if they are not staked, but here in windy Cape Town it is advisable to anchor your new tree with two sturdy poles. These should be positioned on either side of the trunk, in line with the prevailing wind, and far enough away from the tree so that the roots are not damaged.
  Attach the tree to the poles at waist height using tree ties or old bicycle tubes.

CARING FOR YOUR TREES:

- **Watering** – the most important job you have after planting a tree is to keep it well watered until it is properly established, which here in the Cape will likely take a few years depending on factors such as the species of tree, size of tree, soil type, and that year's weather conditions.
  Because of these different variables, you should seek the advice of your nursery or a tree expert to determine the correct watering regime for your tree.
  Watering Guidelines…
- Always water slowly and gently so that the water can seep in rather than running off or destroying soil structure. This is best achieved with an irrigation system, but if you are watering manually with a hosepipe then make sure the stream is on gentle using a rose head (using a watering can also works well).
- Aim the water slightly away from the trunk so that it seeps down to the roots.
- The volume of water required is probably the most variable part of a watering regime. As a general rule you want to ensure that the soil below ground is damp at all times (check by sticking your fingers in a few centimetres). If it is dry then there is not

enough water. If it is soggy and waterlogged this indicates that the soil is not draining correctly, and could kill the tree.

- The frequency of watering depends on the size of the tree, the time of year, and your soil type.
  During the hot summer months you should expect to water the tree twice a week in the first year and then less in following years. Once a fortnight should be fine in winter, depending of course on how much it has rained. Do not neglect your tree and follow up with additional water if necessary. A good quantity of water applied less frequently is best for root growth since this encourages deeper roots.
- Try to water in the morning or evening when it is cooler – this means less evaporation and more water for the tree.

- **Fertilizing** – research studies have shown that it's better not to fertilize a young tree. But as the tree gets more established then adding a good organic fertilizer (not chemical) can aid growth. Once again, seek the advice an expert to ensure you select the right fertilizer for your type of tree and location.

- **Protecting your tree** – any damage to a tree will stress it, and potentially even kill it. Trees that are planted on or near a lawn should have their trunks protected from being "ring barked" by a weed eater. A piece of pool hose or plastic cooldrink bottle works well when the tree is young, but as the trunk grows more substantial protection may be needed. Cats can also damage young trees by using the trunk as a scratching post. Wrapping the trunk in hessian or wire mesh will protect it.

- **Allow space for growing** – if ties have been used to stabilise the during the initial growth period, make sure that these are loosened regularly as the tree trunk grows or they can throttle the tree. Tree stakes should also be removed one the root ball is established.

TREE-PLANTING MOTIVATION

For tree lovers the next few years are going to be heartbreaking.

We must brace ourselves for the felling of thousands of trees and the permanent alteration of Cape Town's cultural landscape.

But while we might be helpless to prevent this loss, what we can do is get out and plant as many trees as we can, ensuring that future generations of Capetonians also enjoy the benefits and beauty of a healthy urban forest.

Remember, PSHB has been found in almost all popular urban tree species.

But, based on the evidence so far, the ones we've chosen seem to be more resistant to infestation, especially if the tree is healthy and well looked after.

This list is only meant as a guide.
Let's get planting!

TREE LIST

GOOD FOR SMALL GARDENS:

- Blue kunibush (Searsia glauca)
- Forest elder (Nuxia floribunda)
- Milkwood (Sideroxylon inerme)
- Pompom tree (Dais cotinifolia)
- Pride of India (Lagerstroemia indica)
- River indigo (Indigofera jucunda)
- Tarwood (Loxostylis alata)
- White pear (Apodytes dimidiata)

GOOD FOR SCREENING:

- Bladdernut (Diospyros whyteana)
- Blue kunibush (Searsia glauca)
- Camphor bush (Tarchonanthus camphoratus)
- Dune crowberry (Searsia crenata)
- False olive (Buddleja saligna)
- Milkwood (Sideroxylon inerme)
- River indigo (Indigofera jucunda)
- Sagewood (Buddleja salviifolia)
- Sand olive (Dodonaea viscosa)
- Tarwood (Loxostylis alata)
- Water pear (Syzygium guineense)
- Waterberry (Syzygium cordatum)
- White pear (Apodytes dimidiata)

MEDIUM-SIZED GARDENS:

- Cape ash (Ekebergia capensis)
- Carob tree (Ceratonia siliqua)
- Waterberry (Syzygium cordatum)
- White karee (Searsia penduline)
- White stinkwood (Celtis africana)
- Wild peach (Kiggelaria africana)
- Wild plum (Harpephyllum caffrum)

LARGE GARDENS:

- Atlas cedar (Cedrus atlantica)
- Fever tree (Vachellia xanthophloea)
- Ficus natalensis
- Hard pear (Olinia ventosa)
- Natal mahogany (Trichilia emetica)
- Pin oak (Quercus palustris)
- Real yellowwood (Podocarpus latifolius)
- Sausage tree (Kigelia africana)
- Stone pine (Pinus pinea)
- Turkey oak (Quercus cerris)
- Water oak (Quercus nigra)

FASTER-GROWING SPECIES:

- Pompom tree (Dais cotinifolia)
- White pear (Apodytes dimidiata)
- White stinkwood (Celtis africana)
- Hard pear (Olinia ventosa)
- Waterberry (Syzygium cordatum)
- Sausage tree (Kigelia africana)
- Wild peach (Kiggelaria africana)

GOOD FOR COASTAL GARDENS:

- Camphor bush (Tarchonanthus camphoratus)
- Dune crowberry (Searsia crenata)
- False olive (Buddleja saligna)
- Milkwood (Sideroxylon inerme)
- New Zealand Christmas tree (Metrosideros excelsa)
- Norfolk Island Pine (Araucaria heterophylla)
- Sagewood (Buddleja salviifolia)
- Sand olive (Dodonaea viscosa)
- Waterberry (Syzygium cordatum)

DECIDUOUS (GOOD FOR SUNLIGHT IN WINTER):

- Pin oak (Quercus palustris)
- Turkey oak (Quercus cerris)
- Water oak (Quercus nigra)
- White stinkwood (Celtis africana)

WATERWISE:

- Camphor bush (Tarchonanthus camphoratus)
- Carob tree (Ceratonia siliqua)
- Crimson Bottlebrush (Callistemon citrinus)
- Dune Guarri (Euclea racemosa)
- False olive (Buddleja saligna)
- Milkwood (Sideroxylon inerme)
- Sagewood (Buddleja salviifolia)
- Sand olive (Dodonaea viscosa)
- Tree aloe (Aloidendron barberae)
- Wild peach (Kiggelaria africana)

SHOWY FLOWERS OR FRUIT:

- Pompom tree (Dais cotinifolia)
- River indigo (Indigofera jucunda)
- Sausage tree (Kigelia africana)
- Tarwood (Loxostylis alata)

GOOD FOR AVENUES:

- Natal mahogany (Trichilia emetica)
- Pin oak (Quercus palustris)
- Red flowering gum (Corymbia ficifolia)
- Stone pine (Pinus pinea)
- Turkey oak (Quercus cerris)
- Water oak (Quercus nigra)
- White pear (Apodytes dimidiata)

LEGACY TREES

- Atlas cedar (Cedrus atlantica)
- Camphor (Camphora officinarum)
- Canary date palm (Phoenix canariensis)
- False yellowwood (Afrocarpus falcatus)
- Ginkgo biloba
- Hard pear (Olinia ventosa)
- Natal mahogany (Trichilia emetica)
- Norfolk Island Pine (Araucaria heterophylla)
- Real yellowwood (Podocarpus latifolius) NB male tree (no fruit, so no bat droppings!)
- Red flowering gum (Corymbia ficifolia)

TreeKeepers Cape Town
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