



ABOVE: Plant a hedge of *Aloe arborescens*. Aloes are both waterwise and slow to catch fire. To further fireproof your garden, you might want to link your garden pond or pool to your sprinkler system should the municipal water pressure drop in an emergency. Photo: A. Notten.

Fireproof your garden

by Alice Notten, Kirstenbosch

Plants have evolved different strategies to survive fires. Some burn up and die but produce masses of seed that germinate soon after a fire. Some burn and appear to die but have underground organs that survive and re-sprout after the fire. Others resist burning and can survive quick or moderate fires – they often have corky bark that protects the trunk, or thick fleshy leaves that don't catch alight easily. Many of our forest trees are more fire-resistant than most fynbos plants, but they also tend to grow in moist, rocky kloofs that give some protection, and a lot of them together are more effective at resisting a fire than one or two on their own. The amount of fuel, the strength and direction of the wind, and the lie of the land make a difference to the intensity of the fire and what it burns.

Of course no plant is completely fireproof, some just take much longer to catch alight and those are the ones that are desirable for fireproofing a garden. Fire-resistant plants usually have broad fleshy leaves containing lots of moisture; no oils or resins in them; smooth bark; a dense compact growth habit that stays low and close to the ground and plants that don't accumulate a lot of woody material or dead leaves. But remember nothing is guaranteed: plants can behave unexpectedly and could be dry enough to catch alight after weeks of drying winds. You can conduct your own research by burning some leaves of the various species, in a safe and

controlled manner, and notice how readily they catch alight when green, wilted and dry.

Highly inflammable plants usually contain resin or oils so

BELOW AND INSERT: Planted as a groundcover, this fleshy-leaved *Carpobrotus edulis* and indeed, most other mesembs, are excellent fire-retarding plants that can be planted close to the house. Photos: A. Notten





ABOVE: The milkwood *Sideroxylon inerme* is a wonderful firebreak: it must be the thick leathery leaves and dense, low crown that makes it so effective. Photo: A. Notten.



BELOW RIGHT: Fire-resistant plants usually have broad fleshy leaves containing lots of moisture and smooth trunks like this statuesque *Aloe plicatilis*. Photo: A. Notten.

BELOW LEFT: Plant small shrubs surrounded by a mat-forming groundcover like this *Hermannia saccifera* so that even if the shrub does catch alight the fire shouldn't spread far. Photo: A. Notten.

BELOW MIDDLE: *Otholobium virgatum* would be a good groundcover to plant a metre or two away from your house. Photo: A. Notten.



don't plant pines, gums or cedars near your house or braai area. Plants that ooze thick sap that dries in globs, like acacias, are also highly inflammable and can explode in a fire. Plants with fine or small, thin leaves and lots of accumulated dead leaves or wood, and most fynbos plants, catch alight quite easily, especially after weeks and weeks of no rain and drying winds.

People that live in or on the edge of a wild area, where veld fires are a real danger, can do many things to protect their property from fires. A fireproof garden won't guarantee the safety of your property but it will decrease the risk.

Around the house

If a fire reaches within 1.5-3 m of your house and there is anything inflammable in this area, the house will likely be lost. In this area, around the house, plant only fire-resistant groundcovers, or a lawn that is kept short and green. Alternatively, put down paving or mulch with non-inflammable materials like pebbles or gravel, but avoid wood chips or bark that could burn. *Carpobrotus*, most mesembs (like *Lampranthus*, *Drosanthemum* and *Delosperma*) and other fleshy-leaved groundcovers are excellent fire-retarding plants that you can plant close to the house. Another plus for them is that they are drought resistant which is useful for holiday houses that are left unattended and unwatered for long periods. A belt of such plants, at least 0.5 m wide should stop most grass fires.

Don't plant woody plants closer than 3 m to your house, don't put anything inflammable closer than 10-20 m to your house and keep inflammable trees 10-30 m away from your house – in fact, make that double the distance on the side of the property that you expect the veld fire to come from and if you experience strong winds during the dry season. If you live on a slope the distance must be even greater.

Plant a windbreak

Even if you were to remove all woody vegetation from your property and plant *Carpobrotus*, or pave or lawn the whole area, it could still catch fire from burning embers carried on the wind. A windbreak of trees or a belt of green vegetation is more effective at stopping or slowing down a veld fire. A windbreak of trees gives protection for a distance of roughly twenty five times the height of the trees and the trees used should not be inflammable. Trees have the added benefit of slowing the wind and catching embers.

If you don't have space for a windbreak, a belt of low green vegetation will also offer protection and will cut down on the amount of inflammable material near the house.

A fire-wise garden

From roughly 3 m away from the house you can plant plants like *Agapanthus praecox* and *Tulbaghia violacea*, both good choices for a fire-wise garden. *Zantedeschia aethiopica* is also a good choice, although it needs to be kept well watered

during summer. Aloes are both waterwise and slow to catch fire, particularly *Aloe plicatilis* with its smooth trunk. Other succulents like *Cotyledon orbiculata*, species of *Cyphostemma* and *Tylecodon*, and many crassulas should also be pretty hard to burn. Leathery leaved *Carissa macrocarpa* and *Athanasia dentata* could be quite fire resistant. The other option is to plant small shrubs surrounded by a mat-forming groundcover so that even if the shrub does catch alight the fire shouldn't spread far. Additional groundcovers suitable for this area include *Dymondia margaretae*, *Hermannia saccifera*, *Otholobium virgatum* and gazanias. Remember to keep the amount of fuel down by constantly removing dead material and not letting the vegetation get too dense, and to keep your garden watered during the dry season to keep the moisture content high and increase its fire-resistance. Well-watered vegetable gardens and orchards are also good for this area.

Clearly a hedge of milkwoods, *Sideroxylon inerme*, as Andrea Durrheim mentions in her letter on page 104 of this issue, is a wonderful firebreak: it must be the thick leathery leaves and dense, low crown that makes it so effective. Some figs (*Ficus*) may be similarly effective as they also have leathery leaves and dense crowns. *Chrysanthemoides monilifera* has quite fleshy leaves and has been observed not burning, or burning more slowly than many other plants, and is an option for a low firebreak. Choosing a variety with the fleshiest leaves you can find and keeping it trimmed, free of old or dead wood and densely bushy and leafy should make it more effective.

Although I have no proof of their fire-retarding qualities, some of our forest trees do not burn easily and could make a good windbreak and firebreak. These include Cape beech *Rapanea melanophloeos*, rooiels *Cunonia capensis*, *Maurocena frangula*, Cape or African holly *Ilex mitis* and rock alder *Canthium mundianum*, although some of them may not grow so well away from the forest.

The further you get from the house, particularly on the other side of your green belt, the less you have to worry about, and here you can plant re-sprouters that will burn fast but will also recover quickly and help prevent soil erosion after a

fire like *Leucadendron salignum*, *Mimetes cucullatus*, *Protea cynaroides*, *Chondropetalum tectorum*, salvias, *Pelargonium cucullatum* and bulbs like *Watsonia*, *Haemanthus*, *Cyrtanthus*, *Agapanthus* and *Kniphofia*.

Tips for fireproofing your house

Ukuvuka gives these excellent tips to fireproof your house. Firstly, don't bank on the fact that the emergency services will be able to take care of it, as you are the first and last line of defence against veld fires. Plan for an emergency, so that you and your family know what to do in the event of a fire. Build with non-inflammable materials as far as possible, and make sure that there are no inflammable pergolas, decks or trellis panels against your house. Don't grow climbers against the house, make sure that branches of trees (particularly inflammable trees) don't overhang your roof and keep your gutters free of dried leaves. Exposed skylights, dormer windows, broken tiles or lifting roofing and even a complicated roofline, create opportunities for embers to lodge and the fire to catch hold. Don't plant shrubberies that become a fire-ladder, which is a continuous supply of fuel from the ground to the crown of trees to your roof. Build your compost heap away from the house and keep woodpiles, fertilizers and suchlike in a metal shed away from the house.

Make sure that you have access to water to put out spot fires or wet your roof. You should install a sprinkler system that will saturate your house and garden if a fire threatens your property, and check that it works. You may also want to link it to an alternative water source like a swimming pool or 200-litre drum with a petrol or diesel pump should the municipal water pressure be too low and the electricity off at that critical time. Make sure that a fire-fighting vehicle has access to your property and house to fight a fire – don't place bins or tool sheds where they block gates or pathways. Keep batteries for your radio so that you can monitor the news even if the power goes down. Keep a fire-fighting kit on hand. Close all windows and doors when a fire is nearby. If you have to escape, do so from the side furthest from the fire, shield yourself with a wet blanket and make for an open area. ♻️

RIGHT: Cape or African holly *Ilex mitis* and other indigenous forest trees do not burn easily and could make a good windbreak and firebreak. Photo: A. Notten.

References

House Fires. Are you prepared, a pamphlet published by The Santam/Cape Argus Ukuvuka: Operation Firestop.

Firescaping your garden, a pamphlet published by the Botanical Society of South Africa in association with The Santam/Cape Argus Ukuvuka: Operation Firestop. Available on the BotSoc website.

Jackie French's tips on creating a fireproof garden, www.abc.net.au.

Landscaping tips – Firewise landscapes: Minnesota DNR, www.dnr.state.mn.us.

Please write in and let us know if you have any more ideas for fireproofing gardens.

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