

This pohutukawa, which has been named *Hauraki*, grows on Auckland's North Shore and shows superior flower size, density and colour.

In search of the perfect pohutukawa

'AFTER LOOKING at thousands upon thousands of pohutukawa you start to get fussy,' says NZ native plant nurseryman, Graeme Platt.

What makes a good pohutukawa tree stand out from the rest? Is it flower size, colour, tree shape? Auckland native plant experts, Graeme Platt and Terry Hatch, here reveal the features they have looked for over the years in making their many selections, including Firestone and Vibrance.

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'The pohutukawa is such a good tree that even a bad one can be quite spectacular. The Americans who came here for the International Plant Propagators' Conference (1989) were taken with them without even seeing the best. There are good and bad flowering years. In a vintage year they flower together. Some years, however, they may come out in dribs and drabs but can still be good because each tree flowers well.'

'In poor years they come out over a long period and no tree is good. Christmas 1990 has been a bad year. The season was late, there was 10,000 you hope to find. I

too much growth and it was the second year in 15 that Parnell did not perform well. That is to be expected, however.' (See June 1990 Comm Hort for details on Metrosideros Parnell, a magnificent specimen growing in the Auckland Rose Gardens.)

'We have got to the stage where the good ones hit you the moment you see them when driving along the road. A selection I call 'Tamaki' is one of these.'

'I have been watching this tree (Tamaki) in Auckland for 10 years now. It is from the 'promised land' of pohutukawa. It is the one tree in the season was late, there was 10,000 you hope to find. I

Graeme Platt: "I am astonished when people describe our NZ pohutukawa (Metrosideros excelsa) as a sombre tree. Even the worst are still, by world standards, good trees. Pohutukawa must rank in the top 10 of the 100 best trees in the world."

place it in the top five and have started to produce it from cuttings.

'It has many of the criteria we are looking for. It has an excellence of flowering which is quite unbelievable and worthy of selection on its own. The colour lifts when the sun catches it. It is still red but it has a vibrant orange cast and even in low evening light the orange glow comes through the red.'

'The flowers are big, not crowded, and they stand out for miles when you become attuned to seeing them.'

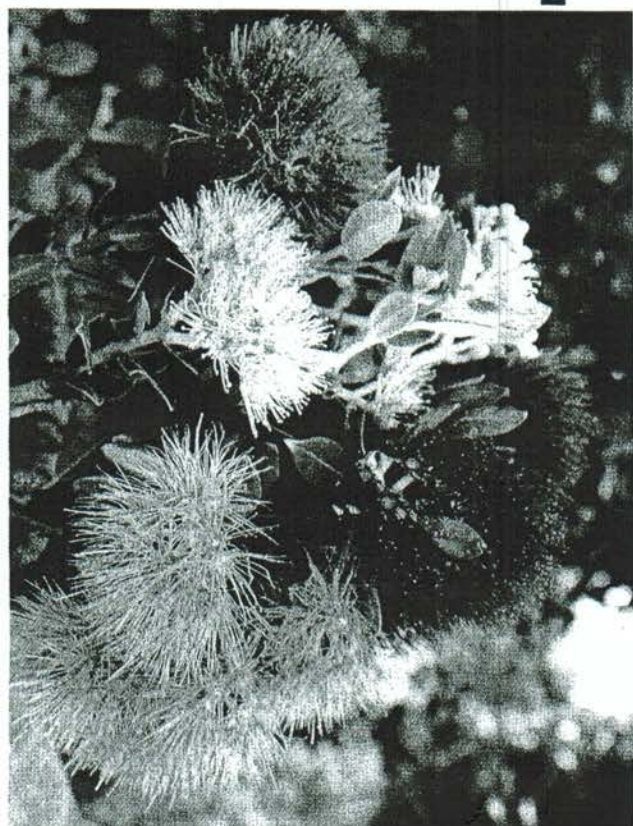
'It is the number of flower buds that makes an important factor; also important is thickness, colour and length of the stamen plus the amount of pollen. That has a bearing on flower appearance.'

'The physical conditions this tree is growing in are poor yet it continues to perform to expectations year after year. As a cutting-grown tree in a garden it would be a sight to behold.'

'I checked Tamaki against a cutting-grown orange flowered plant in Greenlane (Auckland suburb).'

'Tamaki is far more vibrant so the Greenlane selection is really not worth persevering with. I believe many selections have been based on deviance rather than excellence. Future selections must be based on an excellence factor.'

'Tamaki has a nice habit, degree of waviness in the



Above: It is not generally recognised that the colour variation in pohutukawa flowers can be very wide. The samples in this selection range from apricot through orange-red, red, and beige. Off-white is also found on some trees.

Growth and flowering

'Good pohutukawas do not have a great deal of growth when flowering. Vibrance, Firestone, Te Kaha, Tamaki and another we found at Gisborne, are all like this. The factor is quite widespread and almost as if these trees were grown from seed off the same tree. This, however, is impossible. It must be genetic. They all have a similar growth habit, too.'

'Another interesting feature of the good selections is that they also flower inside the foliage canopy of the tree. In a good year Tamaki and Vibrance put on a remarkable show inside the tree. This characteristic is not typical of pohutukawa at all.'

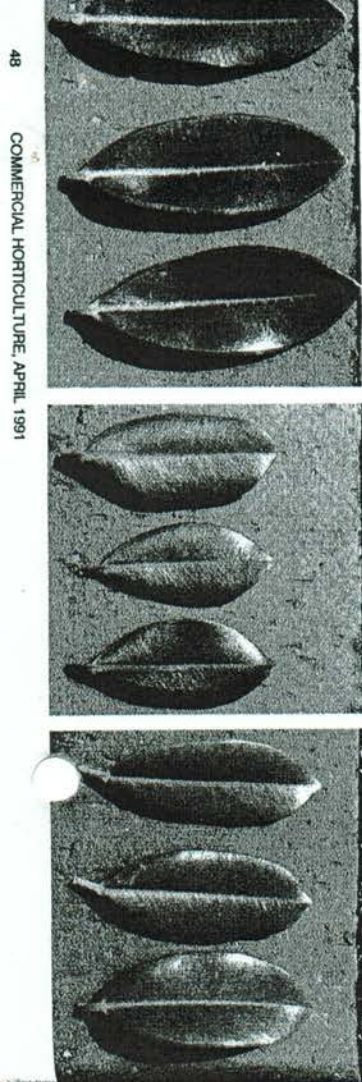
'All these characteristics stand out more in cultivation than in the wild.'

What not to choose

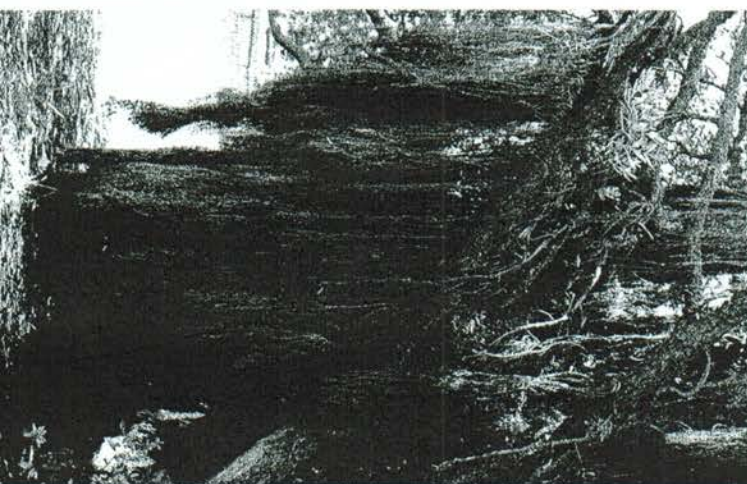
'There is a definite influence that some nurserymen in the past collected seed off better plants.'

Pohutukawa on Auckland's Okahu Bay foreshore are not good, however.

Whoever made the original selection must have saved seed from relatively poor trees. These trees were planted after Auckland's waterfront drive was created about 1930 so were not natural trees growing in situ. Graeme used these as an



Pohutukawa leaf form varies widely, as evidenced below. On the left are the leaves of *M. Parnell*, centre are *Tamaki* and on the right, *Lighthouse*. Classic pohutukawa leaves have long clean lines, are strong and brightly coloured and sometimes glossy, says Graeme Platt



Below: the production of aerial roots, or bearding, is a characteristic of pohutukawa trees. This one, in the Auckland Domain, is probably among the most heavily bearded in the Auckland area. Should bearding be a criteria for selection of superior trees?

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— New mid-season blooming Wisteria with mauve/blue flowers on medium length racemes. Like all Japanese Wisteria the flowers open progressively down the raceme at the same time as the young foliage emerges.
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— Outstanding new Japanese form with clear pink flowers which darken at the edges as they mature. Mid-season flowering with the early young foliage.
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— This new mauve/blue and white flowered Japanese form has medium length racemes which appear with the young foliage in late spring. Flowers open progressively down the raceme.
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example of forms that should not continued in cultivation.

"Trees growing naturally on the headland cliffs above Okahu Bay would probably have been better seed trees. Even from the foreshore I can tell they have far better characteristics than those planted on the side of the road.

"Not all the trees are poor but flowers of poor comparison, sometimes dark red and often are dull. Some trees have a twiggy habit. The leaves are poor and small, not full and rich. Often the bark is bad, too, and the trees are very variable in shape and form. Some would score 0 out of 10 in an evaluation against Tamaki.

"I can tell just by looking at one or two of these trees that they have nothing going for them. Yet they are still nice trees."

Remarkable flowers

"The array of colours is quite remarkable in pohutukawas.

"Many have pinky flowers while others are too dark and some are muddy. While the dark flowered ones may be good trees they do not stand out in the landscape. The trees may have a good shape plus many other characteristics but the flowers have no lift to them and they should never be propagated. "Flower size is important. Many are small.

"The heavy bud factor is consistent with good types. They should be open and clean as opposed to cluttered and messy. You have to compare the good with the poor to see the difference.

Leaves with long clean lines

"The leaves of many are groovy and small. Even if the plant has good flowers you would not even consider it.

"The classic pohutukawa leaf has long, clean lines, is strong, brightly coloured, sometimes glossy. It can be dark but not a somber colour. "I do not like wavy, recurved or droopy leaves.

"It is interesting to note that selections which have good flowers all have similar leaf shapes and habits. There is a relationship between the size of the leaves and flowers. Large-leaf types generally have large flowers.

"Parelli's leaves are magic by comparison with those at Okahu Bay."

Good, robust structure

"The trunk of the pohutukawa must have a good, robust structure. It must be strong with a few small branches. Poor trees have small, twiggy branches especially at the top of the plant. "Some trees have a very

Below: This is the tree in Auckland Domain with the heavy bearding shown on page 48.

"We recently put a premium price on selected trees at the nursery and found it is easier to sell a \$30 seedling than a \$9 seedling."

upright, straight habit and they have no bearding either. "The form of pohutukawa can be altered by growing them on standards.

"One of the things that makes them spread out is the ever increasing diameter of the number of branches. Growing them on one stand and removes this tendency and the shape will be quite different to one which develops a multiplicity of stems near the base.

"Nurserymen should stop producing seedlings. They grow bushy and twiggy at the base. Growing them on high standards is the next logical step in producing quality pohutukawas.

"I look forward to the day when every pohutukawa offered for sale is cutting-grown from selected material and properly trained to shape. We recently put a premium (price) on selected trees (at the nursery) and found it is easier to sell a \$30 seedling than a \$9 seedling. But there must be no palming-off of junk as selected varieties.

"The diversity among pohutukawas is incredibly wide and there is a place for deviation. I know one plant that is 20 metres across and 75cm high, growing in a sheltered position. That is a worthwhile type to work with.

"Looking across a line of trees from a distance you can pick the ones with good, strong, robust, round heads. All the others pale in comparison. You should never bother with a tree with an excellent flower if the shape is poor."

Bark

"The bark must be long, fibrous and strong grained, almost like some of the Australian Ironbarks (Eucalyptus) with long strands. "Some trees have corky, chunky bark which is far too heavy."

Bearding

"I am not adverse to seeing some bearding (aerial roots). Those with clusters of roots are preferable to dense bearded types. "A tree in the Auckland Domain must be the most bearded specimen in the Auckland area. It is overdone and the beard is too thin

While bearding is a characteristic we should not ignore, I would not make a selection on that factor alone. "It must be a good flowering tree with a good structure before it would be worth including the beard characteristic.

Lighthouse

"The early flowering selection, Lighthouse, has performed to expectations again this year.

"This selection (from Rangitoto Island in the Auckland Harbour) started to flower again on November 5th and finished by the end of the month. This confirms its early flowering characteristic.

"Although it does not have the best flowers they are better than average. Its leaves are beautiful and big, the shape is very good so it has three things going for it."

Whakarewareware

"We call a selection from Rotorua, Whakarewareware, because of the close association it has with the famous tourist area.

"It has one of the darkest red pohutukawa I have ever seen and well outside the normal colour spectrum. It has an interesting, brown-hued tintment to the reverse of the leaf which also makes it important.

"While it may not be a significant tree horticulturally it should be included in a Metrosideros excolec collection to represent the darkest flowering pohutukawa. It will be a guide to those colours at a end of the pohutukawa colour range and for this reason it also may be useful in a hybridisation programme."

Inland forms

"We have also made some selections from inland trees growing around Rotorua lakes, Waungapu and other thermal areas. "Pohutukawa are growing quite widely in these areas and possibly originate from seed blown in from the east coast. They generally grow on north-facing cliffs and possibly by have frost tolerance.

"The Waungapu material includes some very erect, fast growing trees that could possibly be developed for timber." Pohutukawa wood was



Lighthouse, an early-flowering selection from Rangitoto Isl

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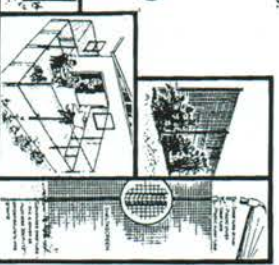
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used for boat building in the early days. It is strong and durable, deep red, heavy and compact. Lawrie Metcalf (Gisborne) area that have sprays of flowers almost a foot long and have great value for boat building.

Kermadec pohutukawa

"I would dearly love to go to the Kermadec Islands and re-evaluate the species there. I do not know how many collections were made from the islands. I do not believe much material was brought back so Metrosideros probably does not have a very good genetic base here on the mainland."

"The next step in the evaluation process is to grow pohutukawa under trial conditions and make further selections."

"The process is going to take longer than we first thought. It takes a year to get the first cuttings growing and a further 3-4 years to see how these perform in the field."

"Fortunately, selections flower the first year so you do not have to wait years to select flower performance."

"Time has come when we must set goals in pursuit of excellence. To not set them is an injustice to our pohutukawa."

"The ultimate goal is to select a number of excellent trees. The more selections we make the greater the numbers will be so we must select the best all the time."

"I have no objection to others growing our selections but I would dearly love to see them produced under a mutually-agreed, guaranteed, self-funding levy so that money could be raised for ongoing research."

"I have spent thousands of dollars in time, effort and travel evaluating pohutukawas and have gained nothing out of it personally. This is not the point, however — I get the greatest satisfaction searching for excellence."

Gisborne selections

"I got a real kick from seeing Rob Bayly's pohutukawa material at Gisborne recently (Bayly Nurseries). The enthusiasm and joy we got out of sharing our selection efforts is undeniable."

"He has one call — Christmas Cheer which is I

"Time has come when we must set goals in pursuit of excellence. To not set them is an injustice to our pohutukawa..."

and criteria we have found acceptable. This is not a personal criticism. We have to be subjective and either I have good judgement or I haven't. After looking at many thousands of trees over a large area of their natural range we find the super-good all-round performers are few and far between."

"Looking ahead we are going to be able to introduce such things as frost resistance into the strains with the central North Island selections, size of flower and habit of growth."

"There is a form with the most fastigate growth. It looks like a Lombardy poplar and it could be used for narrow street planting."

"Clearly, a tree like Parnell will be totally unsuitable as a street tree but suitable as a coastal, foreshore, park, or shade tree."

Project Crimson
"I believe this is one of the

most worthwhile projects in NZ. I would like to see good selections planted rather than more seedlings and the coastline of NZ revegetated with quality material."

"The pohutukawa is one of the world's most spectacular flowering trees. Its commanding presence contributes a unique element to the natural landscape of northern NZ beaches, cliffs and foreshore."

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Anyway — why worry about the pohutukawa?

— A Message from the Publishers —

MEDIA ATTENTION has been focused on the NZ pohutukawa over the past year or so, mainly because of recognition that possum and disease damage is putting the trees under real threat of extinction in many parts of northern NZ.

Concerned people have set up the rescue mission, Project Crimson, and gained quite a bit of industry and government support.

Rescue strategies will include propagating and planting pohutukawa in far greater numbers than ever before.

If therefore seems appropriate, before we go too far, that efforts are now made to ensure only the 'best' trees are used and, indeed, to get some agreement on what attributes to look for when selecting this 'superior' material.

The article beginning on page 48 of this magazine has been run partly to encourage such a discussion. Graeme Platt and Terry Hatch are two of several people who have for years been searching for and selecting what they think are superior clones.

We — and they — are not claiming their criteria are the right or only ones; Graeme admits that even he has recently found himself

broaderening his selection sights. We believe, however, the Platt/Hatch criteria represent a sound starting point. Others should now be encouraged to add their own selection criteria — cold hardiness is one example. Selections made by many people in many parts of NZ could then at some stage be brought together for evaluation.

The further step could include propagation studies, flowering manipulation and growth rate trials. Indeed, this has already started.

We believe what we are seeing are the first steps in a scheme that may well extend over the next 50-100 years.

Now is the time to agree that public authorities will plant only superior clones and nurseries will sell only the best to the private

planter.

• If you have any thoughts or ideas on this matter, please drop a line to the Editor.

Above: Flower head from one of Rob Bayly's Gisborne selections. Note the exceptional length — up to 25cm long

