Puketāpapa Fruit Trees Network Plan

Background

In Financial Year (FY) 19/20 the Puketāpapa Local Board funded a fruit trees network provision assessment, focused on public open space within the parks network.

The aim of this provision assessment was to identify where fruit trees are currently provided across the open space network within Puketāpapa and suggest a principled approach for future plantings.

This study also enabled consideration of the current Auckland Council Community Gardens Guidelines and helped to further develop advice related to fruit trees.

Parks staff considered numerous resources in the development of this plan, including information relating to:

- Food security
- Deprivation
- Health and community
- Current provision
- Site considerations
- Species selection – size/type
- Risk

Many community groups, mana whenua, sports clubs and volunteer organisations have a long association with caring for and improving Auckland's parks and open spaces. Groups are involved either through volunteer schemes, community planting days, collaboration with mana whenua and 'friends of' groups.

Key to progressing the implementation of service provision inherent in this assessment will be supporting and sharing knowledge and expertise with stakeholder groups who are involved with looking after parks and open spaces, and importantly, providing a clear pathway for these groups through the official council processes.

Strategic Context

In recent years, an increased importance has been placed on community health and wellbeing. We know that social connection directly supports wellbeing. Therefore, Auckland Council has a role to play in supporting the community to engage in community strengthening activities within parks.

Our parks play a big role in how Auckland looks and feels. They contribute to making Auckland the world's most liveable city, providing opportunities for us to:

- express our culture and heritage
- get active and stay fit through sports and recreation
- gather as a community through events and festivals
- link the city together, helping people get to their destination
- take care of our environment and enhance our native biodiversity

The Auckland Plan refers to a region of abundance, diverse and vibrant, providing a natural environment contributing to our sense of identity and wellbeing.

To meet this vision of a world class city, the network of parks and open spaces will need to continually grow and improve to meet a diverse need of local communities beyond the traditional recreational requirements.

Enhancing the function of local parks will allow local communities to feel greater ownership of their parks. Sustainable practices will benefit both present and future generations.

Local Parks Service Strategy

The Auckland Council Local Parks Service Strategy 2020 sets out a vision for world-class parks which respond to the needs of local communities. The strategy recognises that interest in community gardening in Auckland is growing,

Community gardens and orchards help to connect people with nature, a core goal of the strategy, by encouraging participation and engagement with local parks. In addition, they help to develop a sense of place within communities through placemaking, local character and social inclusion. By growing food, they also teach gardening and food preparation skills and promote healthy eating, leading to long term benefits for community health and wellbeing. Through partnerships such as these, council can better connect to and engage with the people of Auckland by working together to develop local parks and places.

Ngahere (Urban Forest) Strategy

Auckland Council has also developed an Urban Forest Strategy to protect and plant trees and vegetation to create liveable neighbourhoods. Ngahere refers to the urban forest, which is important to recognise as more than simply trees and vegetation, it also captures the genealogy of all living things, in a wider ecosystem. The benefits of Auckland's Urban Ngahere

can be grouped into four multifaceted areas being social, environmental, economic and cultural.

The strategic framework of the strategy is broken into three objectives 'knowing, growing and protecting'. Currently Auckland Council is in the 'knowing' phase. The naturalisation of parks opportunities falls under the wider Ngahere Strategy and will positively contribute to deliver of this strategy through the planting of trees.

Auckland Design Manual

Also relevant is the Auckland Design Manual regarding, planting and vegetation. This outlines considerations such as:

- species selection, choosing plants suited to the local conditions, as the appropriate plant in the right place will be more likely to flourish and reduce long term maintenance.
- providing adequate soil volume, growth zones, drainage and design grading to direct storm water into planted areas (without flooding them).
- considering the mature size of trees and considering the size and habit of root systems.
- selecting species that exhibit characteristics appropriate to the scale and functions of the place. Consider shade, orientation, landmarks, and ecological connections.
- ensuring any exotic species being planted will not dominate native species, create a monoculture or reduce biodiversity.
- providing higher density planting in areas vulnerable to erosion by people or vehicles.
- ensuring planting on the edges of sites is tolerant of roadway splash, temperature extremes and other constraints relating to adjacent land uses.
- alignment with current baseline maintenance plans for existing and new areas of vegetation (starts with species selection).
- monitoring plant health for several years after planting, including the replacement of plants that may have died.
- considering the impacts of leaf litter, seeds and other hazards such as falling limbs.
- ensuring there is enough maintenance/resources available to ensure long term success of any fruit trees.
- looking for opportunities to produce resources like mulch on site. This will depend on whether weed or pest species are present.
- ameliorating local soils to provide good composition, structure, aeration, nutrients, and drainage.
- avoiding species with toxic or allergen causing characteristics.

Puketāpapa Local Board Context

Puketāpapa is a diverse local board area, with almost half of the population having been born overseas, more any other region in Auckland. In the 2013 census, 44% of residents identified as Asian (including Indian, Chinese, Sri Lankan, Filipino and Korean communities), 16% Pacific and 6% Māori. There are also several African migrant communities living in the area.

Puketāpapa is also a local board facing significant growth, with the population expected to increase from 60,000 to 74,000 in the next fifteen years. This will be most pronounced at key growth areas in Wesley, Roskill South, Three Kings and Waikowhai. This growth is likely to put pressure on the network of local parks. As population density increases these parks will become more important as sites for community activity and connectedness.

Community Interest

Keen interest is being shown by community groups, local boards and individuals in the planting of fruit trees in parks throughout the city. Frequent requests and enquiries relating to fruit trees has highlighted the need for guidelines and general information on the topic.

Because of the landscape and ecological benefits, the provision of more fruit trees in our parks is seen as a desirable objective. Their role as food producers creates a particular interest and focus for community groups and provides educational and sustainable examples as to what members of the public can replicate / achieve in their own gardens.

Healthy Puketāpapa Action Plan 2020

The Healthy Puketāpapa Action Plan (HPAP) focusses on changes to where we live, learn, work, and play to improve health and wellbeing. The plan will deliver a mix of initiatives across Puketāpapa that target those most impacted by harm or poor health outcomes, with emphasis on the areas of the local board impacted by housing change. Actions will be developed with the communities and will integrate with council, community and agency programmes.

Feedback during the development highlighted community desire for parks & green spaces to be opportunities to connect both with other people and nature to promote wellbeing. Children who participated in the 2019 Children's Panel on health gave a very strong message that building connections with whānau and neighbours was important to them.

The message of enabling food production locally that increases connections with nature, enabling the sharing of sustainable practices impacts directly on three HPAP priority areas; healthy kai food for all, encourage movement, healthy homes.

Specifically, the community prioritised neighbourhood projects that:

- Celebrated growing, sharing and connecting through local food e.g. fruit tree planting and community composting.
- Connected mental wellbeing, spiritual and environmental wellbeing through food.
- Bring people together to celebrate cultural identities, build stronger communities and create understanding.

Fruit Tree Benefits

Benefits to Community

Overseas experience shows there are many reasons that members of a community come together and create a garden. Some reasons described as ecological, others as social or community development, or even just for food provision.

Community gardens are valued as open spaces and places for socializing and relaxing, and often become focal points for the community. The activities that take place in community gardens such as sharing gardening tips, cooperating through work parties, arranging social events for neighbours, and enjoying the fruits of the land bring people from all walks of life and all ages together, building stronger, more integrated communities.

Economic opportunity and security are often intertwined with community development in community gardening. In this context, security means food security. Community gardening allows participants to grow their own food to improve their nutrition and benefit their health. It also can lead to the development of new and useful skills.

Benefits to Ecology

Tui, Silvereye (Waxeye/Whiteye), Blackbird, Kereru and Starling, and Kaka all feed on fruit that we can also enjoy. The planting of fruit trees for 'bird consumption' will not be considered the main objective in this use of open space, but as an additional side benefit. Decisions need to be made early on if birds are to be excluded, by netting individual trees and their fruit.

The Honeybee is responsible for over 80% of all plant pollination and their role in securing the future of plant communities is therefore critical. Unfortunately, Honeybee numbers worldwide are declining as a result of the bee being attacked by an increasing number of pests. Part of this susceptibility to pests is attributable to a decline in floral nutrition resources and which creates a shortage of quality pollen for the bees to eat.

Fruit Trees are reliable and abundant producers of nectar and therefore will play their part in promoting healthy bee, and in turn, plant and then bird species.

Risks

The potential risks include:

- Lack of maintenance or community use leading to the site becoming unkempt.
- Lack of a committed group of people leading to the project being abandoned.
- Unsuitable sites such as poor soil leading to tree loss.
- Vandalism of sites or theft of fruits.
- Community backlash.
- Increase of pests, both plant and animal.
- Lack of council staff capacity and resources to support on the ground.

These risks can be mitigated through good, clear, agreed management, planning and maintenance, and through a thorough process during site establishment where all possible issues are considered prior to planting. These considerations are outlined on the following page.

Service Principles

Parks Services staff have produced a list of considerations/principles for the establishment of any future development of fruit trees in Puketāpapa. Any development should:

- Follow the application process as outlined in the Auckland Council Community Gardens Guidelines, particularly with regards to fruit trees (as outlined in Appendix B) and use appropriate species from the approved fruit trees list (as outlined in Appendix C).

- Consider the ecological outcomes of a site. Where the enhancement of native fauna and flora is one of the primary management objectives, exotic fruit trees would generally be considered inappropriate. This would particularly be the case around fragile ecological corridors and significant natural landscapes.

- Ensure appropriateness for the park in consideration, following the principles of “right tree, right place”. Planting should be in line with existing park concept or management plans and not impact upon any identified outcomes. Should not impact upon cultural sites or mana whenua sites of significance.

- Careful consideration needs to be given to current user patterns, maintenance issues, and landscape impacts. Should include a 5m set-back from playgrounds, sports fields, walkways and other assets. Where space allows, an additional three metre buffer is recommended for tree planting in order to account for the future extent of tree crowns.

- Consult with all relevant stakeholders, including existing park users (such as clubs or lease holders), and neighbours. A wide the breadth of community involvement and awareness is encouraged.

- Undertake all relevant site investigations including checking for possible land contamination, land title concerns, and mana whenua sites of significance.

- Apply Crime Prevention Through Environmental Design (CPTED) best practice to the siting of fruit trees to facilitate good sightlines and passive observation to deter theft and antisocial behaviours.

- Consider all stages of development and management of a site in the initial application, including ground preparation, planting, mulching, fertilising, watering, weeding, pruning, pest control and harvesting, as detailed in Appendix A.

- Fruit trees in road corridors are not supported due to difficulties related to fruit tree planting, establishment and maintenance. Difficulties include driver sight lines, fruit drop and ability of sensitive fruit trees to survive in harsh roadside environments.

- Caveat that if groups associated fell away, then the trees would either require removal, or council maintenance would require additional funding.

Roles and Responsibilities

The establishment and management of fruit trees in local parks includes several parties both within and outside of Council. By outlining roles and responsibilities, it is clear where council staff should be involved. The following matrix outlines expected involvement.

Team / Person	Responsibility
Applicant	• Seek approval through LOA process in line with Community Gardens Guidelines • Apply for funding through Local Board grants • Appropriately manage, maintain, and reinstate site on conclusion as per conditions of approval.
Puketāpapa Local Board	• Advocate for community (and other stakeholder) led development of fruit trees. Encourage applicants to follow formal process and guidelines. • Provide grants to approved community partners. • Consider allocation of LDI funding to new or approved capital / renewal projects for delivery of fruit trees in local parks.
Parks Services - Parks & Places Specialist	• Provide advice to applicants as they begin process on key principles for consideration (as outlined in document), and application process. • Assess appropriateness of proposed site in line with existing parks service outcomes and future planning. • Provide advice to local board to help guide future LDI investment.
Community Facilities - Stakeholder & Land Advisory	• Guide applicant through Landowner Approval process, ensuring alignment with fruit trees section of Community Gardens Guidelines document. • Seek and collate feedback from relevant council specialists.
Community Facilities - Operations	• Provide feedback on fruit tree applications to ensure management issues are identified and impacts minimised early in process. • Monitor to ensure appropriate management of the site as per conditions of approval. • Ensure contractors appropriately manage fruit trees installed as part of council projects.
Parks Services - Community Park Ranger	• Manage volunteer led ecological restoration planting programmes in local parks.
Community Facilities - Programme / Project Delivery	• Identify opportunities for Local Board LDI investment into the fruit trees network, in line with key principles and opportunities outlined in this document.

Parks Services Analysis

Parks Services assessed the current provision of fruit trees across Puketāpapa, undertaking firstly a desktop exercise, followed by site visits.

Staff found that there is some provision of fruit trees in the eastern suburbs of Three Kings and Royal Oak. However, when compared to the rest of Central Auckland there is a distinct lack of fruit tree provision in the western and southern extents, most pronounced in suburbs such as Mt Roskill, Wesley, Roskill South, Waikowhai and Lynfield.

See following pages for provision maps focused on Puketāpapa.

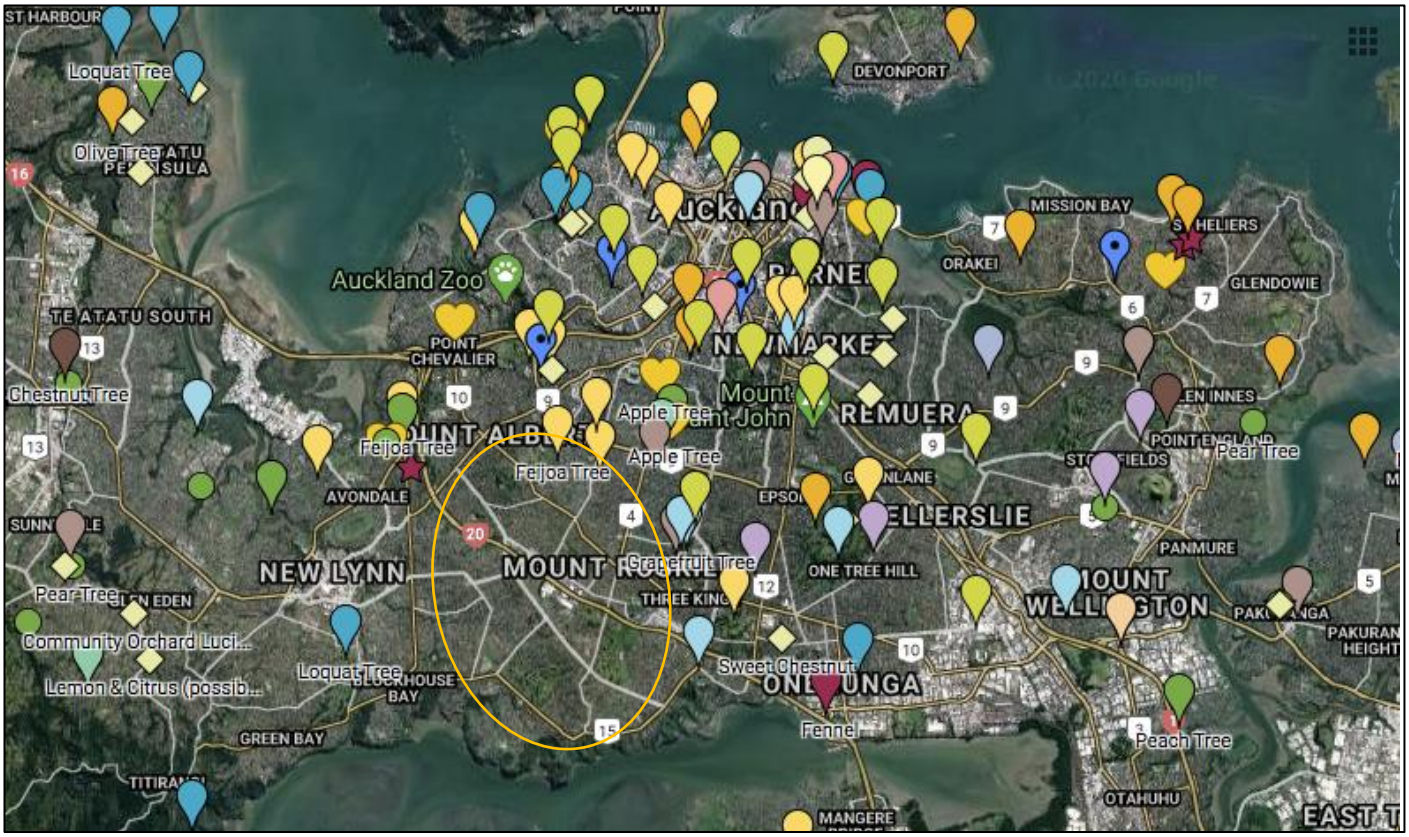

Figure 1 - New Zealand Fruit and Food Map - colours represent different varieties

Puketapapa Fruit Trees and Community Gardens Provision Map 2020*

Key

- **Community Garden Public**
- **Community Garden Private**
- **Fruit Tree**

**Information obtained from:*

- Auckland Council Community Garden Register 2018

-NZ Fruit and Food Sharing Map 2020

Puketāpapa Local Board
Auckland Council

Puketapapa Fruit Trees Opportunity Map 2020

Opportunities

Parks Services staff have identified several opportunities which align to the service principles outlined on the previous page (see opportunities map: p.7). Provision of fruit trees in these locations would help to fill identified gaps and provide a robust network of fruit trees / community gardens across the local board area. This includes:

Parks where fruit trees are already considered as part of existing plans, such as:

- Keith Hay Park – possible larger orchard development at Central Interceptor site.
- Margaret Griffin Park – possible fruit trees associated with back of recreation centre.
- Arthur Faulkner Reserve – possible fruit trees along park boundary.
- Bob Bodt Reserve – possible fruit trees planted by scouts.

Parks where fruit trees would be suitable, aligning to the service principles, such as:

- Walmsley Park
- May Road War Memorial Park
- Fearon/Harold Long Parks
- Three Kings Reserve
- Roskill South (new park)
- Manukau Domain
- Oriana Park
- Belfast Reserve
- West Reserve
- John Moore Park
- Robinson Park
- Kainga Ora (development site)

This is by no means a comprehensive list of opportunities. It is possible that others will present themselves, either via community led initiatives, developer led initiatives, or as new opportunities arise within parks.

The Puketāpapa Local Board should seek to encourage investment in Fruit Trees across the network to ensure adequate provision is provided in a strategic and equitable manner.

Recommendations

- The Plant Lists in Community Garden Guidelines (Draft) are updated to include Fruit Trees, as outlined in Appendix B and C.
- The Puketāpapa Local Board consider funding with future LDI development and renewals budgets the establishment of fruit trees at the opportunity sites listed in this document, prioritising sites already identified in existing concept plans or as part of the Ngahere Strategy “growing phase”.
- The Puketāpapa Local Board encourage the establishment of new community led initiatives, at appropriate locations as per the principles outlined above, and aligned to the Community Garden Guidelines document to ensure consistency.
- Work with Healthy Puketāpapa as the umbrella agency for health and wellbeing in Puketāpapa, especially when it comes to growth, community development and food security.
- Work with Kainga Ora and private developers at key housing development sites including Roskill South, Waikowhai, Wesley and Three Kings to ensure consideration of fruit trees and community led gardening initiatives.

Appendix A - Management and Maintenance

Ground Preparation

Cultivate the area of ground required for the planting of individuals or groups of trees. Work in Gypsum and dolomite lime to break up clay. Plants should be individually fertilised when planted.

It is critical that normal parks operations such as mowing of grassed areas are not significantly impeded by the placement of individual plants or a planted area.

Planting

Make sure the soil is well worked when planting. Stock either bare root (plant before mid -August if no soil and keep moist or heeled in prior to planting) or bagged. 35 Litre to 45 Litre stock is considered a suitable size. If a contractor carried out the planting and supplied the stakes/ties/ fertiliser/planting medium this would raise the total cost. There is scope for volunteers to carry out all or part of any planting. In this instance, the costs of the plants and materials would still need to be factored in to total budget costs.

Do not bury or plant specimens too proud, i.e. plant at the soil level the tree has been used to. Planting twenty 45L specimen trees takes a lot more effort than bare root equivalents, and they may not establish any better.

Companion Planting

Many plants have natural substances in their makeup that can help attract or repel insects. They can also in some situations help enhance growth rates of neighbouring plants. Companion planting therefore helps establish a balanced ecosystem and one which reduces or eliminates the need for additional pesticides. For example, Tansy is a great companion plant to Apricot, Peach, Apple, Plum and Pear.

Mulching / Fertilising

100 -150mm aged mulch is best, but Urea can be added (or high nitrogen fertiliser) to new mulch. Mulching can be carried out prior to or at planting.

General fertilisers are fine, unless symptoms of nutrient deficiency are present in trees (use 3-4 handfuls per tree). Many fruit trees are considered ‘gross feeders’, having high fertilizer requirements e.g. Citrus benefit from 6 weekly top ups over the growing months.

Watering / Weeding

It is important to keep soil moisture up during the first summer, until the specimen’s root system is established and growing in the ground surrounding the original root ball. At least 40L per week should be given to young trees under dry/drought conditions.

Hand weeding is preferred to spraying. Weeds compete for nutrients and reduce production.

Pruning

Species specific, e.g. Plums pruned for shape, Apples and Pears for production. Others require no pruning. Council will provide guidance and training on pruning as and when required.

If, for example, Silverleaf Disease (caused by *Chondrostereum purpureum*) is prevalent in the area then pruning of apples, plums and other members of the Rose family should not be carried out in wet Winter conditions where wounds do not dry out and spores are able to germinate on wood.

Citrus do not require much pruning but when they are pruned, it is best carried out when Lemon Tree Borer (Oemona hirta) are not on the move as adults. From Spring through early Summer adults are attracted to these cut/torn surfaces to lay their eggs.

Pest Control

Steer away from chemical control of pest and diseases, many pesticides kill the bugs and bees needed for good tree health. Choose resistant stock that will thrive in Auckland's soils and climate.

Fruit in this instance is not being produced on a commercial scale and the spraying practices adopted by commercial producers are not considered appropriate in this instance. Fruit is also likely to be picked and eaten in situ by children and for this reason council will not be carrying out any scheduled pesticide sprays on the trees. Only in exceptional circumstances, and for instance in response to a bio security alert, would spraying on fruit trees be undertaken by Auckland Council.

Moth traps can be used for biological control of the Codling Moth *Cydia pomonella* in apples. Fruit driller moth (Guava Moth) *Coscinoptycha improbana* is spreading rapidly through Auckland's fruit trees. It causes damage to the fruit of a large number of varieties, from Plum to Feijoa and Macadamia, making them inedible. Pheromone control (like Codling Moth) is likely to be available at some stage, but until this is commercially available, systemic insecticide control is the only method.

Trapping and baiting (e.g. using cholecalciferol) of rats and possums may be necessary at some sites.

Harvesting

Take special care of trees when harvesting fruit. Make sure tears and breaks don't happen; if they do then prune back to sound wood (this usually results in limiting the surface area through which disease or infection may enter).

Species have a huge range of harvest longevity and picking requirements. For example, avocados can be kept on a tree until required, whereas plums and apricots have a short harvest period once ripe. Citrus generally don't continue ripening once picked.

Don't allow young trees to bear too much fruit. Fruit production requires a lot of energy that should be used on the establishment of the plant.

Fruit that is not harvested will be left to rot on the tree or where it has fallen on the ground. Historically, isolated complaints have been made about ripening fruit (odor, unsightliness, prevalence of fruit flies etc.). However, because of the costs involved, it is not the intention to have maintenance contractors remove fruit that is not picked.

Appendix B: DRAFT Auckland Council Community Gardens Guidelines : Fruit Trees

Fruit Trees

- Keen interest is also being shown by community groups, local boards and individuals in the planting of fruit trees in parks throughout the city. Frequent requests and enquiries relating to fruit trees has also highlighted the need for some guidelines and general information on the topic.

Focus areas are

- Site considerations
- Size/Type
- Species selection – listed in Appendix C
- Site preparation, planting and maintenance

Overview

- Because of the landscape and ecological benefits, the provision of more fruit trees in our parks is seen as a desirable objective.
- Their role as food producers creates a particular interest and focus for community groups and provides educational and sustainable examples as to what members of the public can replicate / achieve in their own gardens.
- The object is to provide the initial guidance for working together to gain positive end results and a great harvest.

In Scope

- Fruit trees in Local and Sports Parks

Out of Scope

- Fruit trees in the Road Reserve and Regional Parks (inc. Maunga).
- Orchard creation

Caveat

- Auckland Council's park tree maintenance regime is 8-year cycles, and only in summer when parks can be accessed.
- The specifications list outlined in Appendix C.
- Variations to the supplied list are by exception only. Applicants must outline how they will provide a higher service level than council can provide and accept that if their groups disband, maintenance will either revert to council service levels, or the plants group will need to remove the plants entirely.

Appendix C: Tree Varieties Feb 2020 : Fruit trees for consideration in Council applications

Stonefruit
Ruby red 'Fortune' plums
Black Doris
Damson plums, for drowning in gin
Maycrest' or 'Orion' peaches.
Heritage 'Blackboy' peaches
PEACHARINE Healy's Peacharine, A PEACH NECTARINE CROSS
PLUMCOT Spring Satin, A PLUM-APRICOT CROSS
Peaches Flatto
Plum Wilson Early
Nectarine Springred
Peach Golden Queen

Pipfruit
'Peasgood Nonsuch', apple
Papples. The red-skinned Nashi pear that thinks it's an apple.
Nashi 'Hosui'
Apple 'Monty's Surprise'

Passionfruit
Passionfruit Black
Golden Passion Passionfruit

Feijoas
Unique' feijoas. The best variety for a self-fertile, uniform hedge.
FEIJOA Wiki™ Tu
Feijoa Apollo
Feijoa Mammoth

Figs
'Brunoro Black' figs
Fig French Sugar
Mrs Williams Fig

Guavas
Tangy red cherry guavas appeal to winter palates and wood pigeons.
Guava Red
Guava Yellow

Olives
OLIVE Frantoio
OLIVE Kalamata

Berries

Blackcurrant Ben Rua, Blueberry Powder Blue, Raspberry Waiau, Blueberry Misty, Blueberry Climax

Rhubarb
Rhubarb Moulin Rouge
Rhubarb Ruddy Fool

Citrus

The 'Meyer' lemon, Yen Ben, Lemonade
Tahitian limes
Tahiti Bears Lime
Subtropical kaffir limes
Golden Special' grapefruit
Grapefruit Wheeny
'Navel' oranges
Dwarf Navelina Orange
'Clementine' mandarins
Mandarin Silverhill
Tangelo seminole

Almond (*Prunus dulcis*)

Apple (*Malus spp.*)

Babaco (*Carica pentagona*)

Banana (*Musa spp.*)

Carob (*Ceratonia siliqua*)

Cherry (*Prunus avium.*)

Cherymoya (*Annona cherimola*)

Coffee (*Coffea Arabica*)

Feijoa (*Acca sellowiana*)

Fig (*Ficus carica*)

Guava (*Psidium spp.*)

Jaboticaba (*Myciaria cauliflora*)

Lime, Lemon, Grapefruit, Orange, Mandarin (Citrus)

Macadamia (*Macadamia integrifolia*)

Mango (*Mangifera indica*)

Miracle fruit *(Synsepalum dulcificum)*

Mulberry (Black-*Morus nigra*, White – *M.alba*, Red –*M. rubra*)

Nectarine (*Prunus persica*)

Olive (*Olea europaea*)

Peach (*Prunus persica*)

Pears (*Pyrus communis)*

Pecan (*Carya illinoinensis*)

Persimmon (*Diospyros kaki*)

Plums (*Prunus domestica)*

Pomegranate (*Punica granatum*)

Rose Apple (*Syzygium jambos*)

Walnut *(Juglans regia*)