

WAIPA DISTRICT PLAN: PLAN CHANGE 2 – PROTECTED TREES

Hearing Date: 17 June 2019

Jill and John Elliott – 18 Le Quesnoy Place, Cambridge

INTRODUCTION

1. We own the property at 18 Le Quesnoy Place, Cambridge.
2. We intend to build a home on the property. We have not been able to do this because of the processes that would be involved in having to remove the Black Walnut Tree.
3. We come from a rural background and have retired to live in Cambridge. We are now in a position where we can continue to develop the site and build the home we have planned for our retirement.
4. We are committed to the site and have so far have been involved with putting in a track down the bank. In consultation with the Tree Trust, the track has been metalled and over 100 trees have been planted. These trees consist of rimus and a variety of other trees including liquid ambers.
5. While we have been working on the site, we have had to remove many of the black walnut seedlings which seem to grow very easily. The majority of the neighbours when we speak to them, all wish to have the tree removed.
6. We both have a love of trees and have always admired and appreciate the many mature trees particularly in and around the town of Cambridge.
7. We will produce photographs, articles and letters from neighbours and will speak to these at the end of these submissions.

PLAN CHANGE 2: REPORT

8. The Report states at para 2.3 (page 3 of 53):

“One of the key drivers for this Plan Change has been the change in our urban environments. Trees are a significant part of our community’s landscape; however, our towns have grown. In our community there are protected trees which were once on a farm or a large urban section which are now on a small urban section or commercial site. The proximity of the tree to the development is problematic for both the health of the tree and the enjoyment of the property by the landowner.”

9. The Report at para 2.10 (page 4 of 53) refers to the overall objectives of Plan Change 2 including”

- “▪ Address the negative impacts created by large protected trees on small urban sections;
- More effectively manage risks, including where a tree is dead or dying or there is a threat identified to part of the tree;”

Arborists Evaluation

Mr Craig Webb

10. **Mr Webb** states:

“By their very nature, tree evaluation systems are subjective, and it is not uncommon for two evaluators with similar qualifications and backgrounds to arrive at different scores when undertaking evaluation of the same tree. This is due to differences in interpretation of many of the criteria that are assessed under tree evaluation systems.”

(Page 6 of 7, Mr Webb’s Report).

11. With reference to the black walnut tree, **Mr Webb** states:

“The black walnut tree at 18 Le Quesnoy Place was found to be in good condition and no threat to human, animal or plant life. It is true that black walnut trees have toxic compounds that can kill other plants or prevent many from growing, however in this tree’s current setting the harm done is not a significant factor, in my opinion.”

(Para 2.7, page 4 of 7, Mr Webb’s Report).

12. **Mr Webb** further states:

“... it is noted that no dwelling currently occupies the site, so the tree does not impact on any inhabitants. It is acknowledged that the presence of a protected tree could have significant implications for future land development on this property, and that this may require creative planning and architecture.”

(Para 2.7, page 5 of 7, Mr Webb’s Report).

13. **Mr Webb** also refers to trees that are obviously faulty. In this case, there is a significant hole at the base of the tree which extends into the tree at least 1.35m. We believe this must come within the meaning of “faulty”. **Mr Webb** states:

“I agree that trees that contain a proven risk of harm should be removed if the risk of harm cannot be tolerated or mitigated. Trees that are obviously faulty **should not** be nominated or considered for evaluation as protected trees.”

(Para 2.10, page 5 of 7, Mr Webb’s Report).

Ms Chris Brockelbank

14. **Ms Brockelbank** in her STEM peer review differs from the assessment of Mr Webb that requires consideration of the site as it is now, ie an undeveloped section. She states:

“Therefore, we reviewed the STEM score for this tree with consideration of it as an occupied site with a dwelling. Due to the relatively small size of the site, this tree will be close to the house and the tree will cover much of the unbuilt portion of the site. Because of this the occupants could be considered to be significantly impacted by this tree. A large volume of walnuts fall from a tree this size; walnuts are big, heavy fruit which are attractive to rats and can produce a mould which is toxic to animals. Walnut trees are also allelopathic. Allelopathy can have an adverse effect in the garden, resulting in reduced seed germination and plant growth, limiting the ability to grow other plants on this property.

With this review, the Function of the tree on this site drops from Useful to Minor (Function is the STEM criteria where both positive and negative impact should be considered).

The change in Function from Useful (9 points) to Minor (3 points) under STEM changes the score for this tree from 144 to 138.”

(Appendix C, pages 1/2)

15. **Ms Brockelbank** in her summary confirms that Mr Webb agrees with the reviewed STEM score for the black walnut tree due to the consideration of it as a residential site with a future residential dwelling and occupants. (Appendix C, page 2/2).

THE BLACK WALNUT TREE

16. An inspection of the tree confirms:

- Its circumference is approximately 4.5m.
- It has a diameter of around 1.433m.

17. A closer inspection of the tree reveals that at the base of the tree there is a “hole” which is around 250mm wide. This has not been referred to by either arborist. This hole has been used by bees and wasps as well as rats, etc. We have measured the length of the hole inside the tree and it extends at least 1.35m into the tree. The hole could in fact extend further. (Refer to photographs).
18. The tree is on a bank. The hole itself must impact upon the stability of the tree. We are surprised that this hole has not been referred in the Report/references contained in the Report.
19. To date, Council has spent much time and no doubt cost in addressing the issue of the black walnut tree on our property. We have also spent time and costs in approaching Council about the tree. These approaches have been made well before Plan Change 2. We refer Council to its file which contains correspondence and photographs.
20. We are now involved in this Plan Change 2 process which involves voluminous paperwork that requires hours of study to try to understand how best to approach the issues concerning this tree.

RECOMMENDATION

21. The Council Officers’ recommendation is that Plan Change 2 is approved, with amendments to the notified version as per Appendix F of the Report which adopts the majority of the provisions as notified with changes recommended to the STEM scores in Appendix N4.
22. While the tree on our property remains protected, its STEM score of 138 means that an application to remove the tree would not be publicly notified.
23. An application will involve further time delays and involve further costs as we will be required to engage yet a further arborist.
24. All previous communications with the Council which have included photographs and letters from neighbours all confirm that the preference is for the tree not to be listed as protected.
25. We now simply ask that rather than have to go through a whole process to have the tree removed, that Council simply have the walnut tree removed from the Protected Tree List. To have the tree remain on the List and then have to go through a further process of engaging an arborist and then have that arborist consult with the Council arborist to then have the tree removed seems an unnecessary cost with associated delays for both the Council and us.

CONCLUSION

26. We make the following points:

- The section is a small residential section.
- We wish to build a home for our long term use in our retirement.
- The tree will severely impact on our use of the section.
- The tree must have limited life and be unsafe because of the extent of the hole that is at its base and extends 1.35m into the tree.
- The tree has toxic consequences. We will speak to these when we refer to photographs and letters from our neighbours.
- A protected status means that we are put to significant costs to make application for its removal even though this would not require public notification.
- We seek to have the black walnut tree be removed from the Protected Tree Table (Appendix N4) without any further delays and costs being incurred by both the Council and ourselves.

Photographs

Letters from neighbours









From: Theresa Davidson <tess.m.davidson@gmail.com>

Date: 6 October 2015 8:10:28 pm NZDT

To: jilljohn@xtra.co.nz

Subject: walnut tree

Hi Jill and John,

Just a quick note to say that we support removing the walnut tree from your section on Le Quesnoy Place.

Regards

Theresa and Dennis Davidson
7 Le Quesnoy place
Cambride.

From: Judy Moreland <judemoreland@icloud.com>

Date: 4 October 2015 3:13:42 pm NZDT

To: jillnjohn@xtra.co.nz

Subject: Removing the tree

John and Jill

We are fully supportive of the removal of the black walnut tree in Le Quesnoy Place. We have no reservations about its removal.

Judy and Ken Moreland

6 Le Quesnoy Place

Cambridge

Sent from my iPhone

11 Le Quesnoy Place,

Cambridge.

I am in support of the Elliott's wanting to remove the walnut tree on their property. I am concerned about it's toxicity and it's attraction to rats for the walnuts. I also worry about the damage the bees are causing at the base of the tree.

Jenny Webber

jillnjohn@xtra.co.nz

From: <jillnjohn@xtra.co.nz>
Date: Tuesday, 20 October 2015 4:01 p.m.
To: <jillnjohn@xtra.co.nz>

Hi John and Jill

We are supportive of the removal of the walnut tree on your property. Rats are a concern to us plus the toxicity of the tree and it's toxic pollen.

George and Colleen Wilkinson 12 Le Quesnoy Place

20/10/2015

From: Sue Peake <susanpeake7@gmail.com>

Date: 1 October 2015 4:53:11 pm NZDT

To: jilljohn@xtra.co.nz

Subject: walnut tree

Dear Jill and John.

We have found that the rats are a problem for us at our property in Bath Street. The Walnut Tree attracts the rats and they store the walnuts if they can in our roof, which is a worry. We also feel the toxic pollen is a worry as our gran children suffer with allergies. Thank you for allowing us to share the problems we are having with the Walnut Tree. Regards Sue and David Peake

16 Le Quesnoy Place

Cambridge 3434

5 October 2015

To whom It may concern.

This letter is an expression of the thoughts of my wife Annette and myself in regard to the large walnut tree on the section adjacent to ours in Le Quesnoy Place.

For us, when we purchased our section we had concerns in regard to the tree and in the time since those concerns have become realities.

Some of those concerns have been and are:-

Rats. Rats obviously store and eat the walnuts and we have witnessed many times rats on section and also have had to remove dead rats from our property.

Wasps. There is a very large hole in the southern base of the tree that is infested annually by wasps nesting. Prior to the Elliott's purchasing the section I had tried killing off the nest, but was not successful.

The above mentioned hole at the base has to create doubt about the long term stability of the tree and this is a real concern.

The fruit. This tree sheds hundreds and hundreds of fruit each year across a considerable area of the section and the ground below. The fruit then in time seeds and over the time that we have lived here I have sprayed and pulled hundreds of the seedlings not only on the section that now is the Elliott's, but as we assist the Cambridge Tree Trust in taking care of the area of the Lola Silcock Park below our section, constantly from that park area.

After shifting into Le Quesnoy Place, our concerns about the tree were increased when we became aware of the element of toxicity that the tree and in particular the walnuts presents to a whole raft of shrubs, plants and garden life. Also animals are at risk and in this location dogs in particular.

We also believe there is a real danger to people not only on Elliott's land but also on neighbouring sections, along with people using Bath Street extension to gain access to Lola Silcock Park and the Tree Trust tracks, from the possible advent over time of falling limbs from the tree.

We believe that the west end of Le Quesnoy Place, lower Bath Street and the adjacent area of Lola Silcock Park would benefit and be safer with the removal of the tree.

Yours faithfully



C S Hunter ONZM

Juglone in black walnut trees toxic to humans, nearby plants

By **KIM D. CODER**
University of Georgia

When you look into your garden or backyard, be careful not to ignore your black walnut (*Juglans nigra*) tree. Lurking inside its leaves, fruits and roots is a toxic chemical made to control competition.

Black walnuts are valuable as shade and timber trees. They produce delectable nuts, too. But if your black walnut overhangs your garden, your tree may be out to get you.

The fruit, leaves and roots of black walnut trees contain a chemical, juglone, that can injure other plants. Ingesting even a small amount of pure juglone can cause a serious poisoning effect in humans.

Inside the tree, juglone is a clear liquid (called prejuglone) that is non-toxic. If the tree cells that contain this prejuglone are damaged, cut or injured, it is immediately oxidized into its toxic form. You can see this by cutting into the husk of a small walnut. It quickly changes from green to dark brown as it is exposed to the air. The clear prejuglone is rapidly oxidized to dark, reddish-brown juglone.

Insects, diseases and mechanical injury can cause prejuglone to be oxidized into its toxic form. Over time, juglone naturally leaks out of walnut roots, leaves and buds into the soil.

By far the highest concentrations of juglone are found in black walnut parts. But many other members of the walnut family contain it, too. English walnut, pecan and the rest of the hickories all have small amounts.

The fruit husks contain the highest concentrations in any species. One of juglone's many purposes

is to prevent pets from attacking new seeds.

Some people and animals are susceptible to juglone damage. Consuming too many leaves or using walnut sawdust for bedding can cause a number of problems with animals.

Some people are especially sensitive. Cutting walnut lumber can coat you with sawdust. Everywhere this sawdust lands can produce a red welt on some people.

In the soil, the oxidized juglone will damage many living things, including plant roots. If it leaks back onto a walnut root, it is quickly made non-toxic and again will be stored.

Juglone is a respiration toxin as a herbicide. Once it is released into the soil, small amounts can damage and kill the roots of neighboring plants.

Beneath the tree, it severely damages annual plants, garden vegetables, fruit trees and some broad leaf perennials. Most grasses seem immune. Wherever walnut roots travel, though, they change the soil they move through by adding juglone to it. For very susceptible plants, like tomatoes, potatoes and peppers, even walnut mulch can be damaging. Be sure to age or compost leaves, twigs, fruit husks and wood chips from walnut trees before adding them to a garden or landscape.

An oxidation and aging process converts all the prejuglone into toxic juglone. Then further aging and oxidation, under moist conditions, will break juglone apart into non-toxic pieces. Grind down black walnut stumps or remove them. Take away any chips of sawdust for composting.

Some trees such as red maple, willow and apple, won't perform well on sites recently occupied by black walnut roots. Many plants won't grow well around living black walnuts or where the trees have recently lived. One full growing season is usually enough time to eliminate most of the juglone.

Allelopathy[edit]

Black walnut is allelopathic, as it excretes chemicals into its environment that harm competition. While many species of plants are allelopathic, walnuts are particularly famous for it, records of walnut toxicity to other plants have been observed as far back as the first century when Pliny the Elder wrote: "The shadow of walnut trees is poison to all plants within its compass."^[29] Walnuts have since been observed as being toxic to many plants including herbaceous and woody plants.

Like other walnuts, the roots, inner bark, nut husks, and leaves contain a nontoxic chemical called hydrojuglone,^[29] when exposed to air or soil compounds it is oxidized into juglone that is biologically active and acts as a respiratory inhibitor to some plants. Juglone is poorly soluble in water and does not move far in the soil and will stay most concentrated in the soil directly beneath the tree.^[30] Even after a tree is removed the soil where the roots once were will still contain juglone for several years after the tree is removed as more juglone will be released as the roots decay.^[30] Well drained and aerated soils will host a healthy community of soil microbes and these microbes will help to break down the juglone.

Symptoms of juglone poisoning include foliar yellowing and wilting.^[30] A number of plants are particularly sensitive. Apples, tomatoes, pines, and birch are poisoned by juglone, and should not be planted in proximity to a black walnut.^{[4][31]}

Black Walnut Tree

BY C. COLSTON BURRELL

Black walnut is an eastern North American form of walnut and perhaps the most adaptable species of its genus. It is an extremely valuable timber tree.

Description of black walnut: The black walnut is a large tree, often more than 100 feet in height, usually developing a full, well-formed trunk with high branches. The oval crown is quite open. The black trunk and stems add to its winter charms. The large, deciduous leaves are pinnately compound. Its nuts are edible but encased in a thick green covering that stains the skin, making harvesting difficult.

How to grow black walnut: It is best to grow this tree from seed, since it has a deep taproot and resents transplanting. The black walnut is fast-growing in its youth, so it makes an interesting landscape specimen within a reasonable length of time, and then its growth slows down. It rarely reaches its maximum height of more than 100 feet in culture unless it is supplied with a deep, rich, moist soil. It also grows well, but slowly, in dry soils.

Uses for black walnut: Due to its large size, the black walnut is best used as a specimen tree. Although tolerant of street conditions, it makes a poor street tree because of its messy leaves and fruit. All walnuts produce juglone, a substance that can be toxic to plants growing in their vicinity.

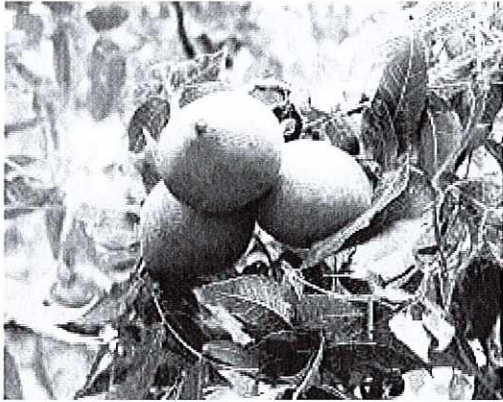
Black walnut related varieties: The variety 'Laciniata,' with finely cut leaves, is the best choice for landscape use.

Black walnut related species: The English, or Persian, walnut (*Juglans regia*) produces the walnut of commerce, but it is of limited hardiness. The Carpathian walnut (*J. regia* 'Carpathian') is a hardier selection (zone 5).

Scientific name for black walnut: *Juglans nigra*

Black Walnut: The Killer Tree

SHARE



Black Walnut trees produce juglone in its fruit, leaves and branches that can be excreted from the root system into the soil.

By Chris Feeley
Extension Forester
Iowa State University

As a forester, I very often am asked “Will black walnuts have harmful effects on nearby plants?” Like a true professional, I always give the best answer. Maybe.

In the 1880s, scientists identified a compound called juglone that is produced by black walnut trees. After conducting a few tests, the scientists demonstrated that injury and sometimes death resulted when the chemical juglone came in contact with a susceptible plant. The symptoms that they noted were yellowing leaves, wilting and eventual death of certain plants.

We now know that juglone is produced in the fruit, leaves and branches, and can be excreted from the root system into the soil. The actual concentration in each tree part varies with the season. In spring, juglone is concentrated in the actively growing leaves. The amount of juglone in the roots remains relatively high throughout the summer, and the concentration of juglone in the hulls of the fruit increases as the crop matures.

All species of the walnut family (Juglandaceae) produce juglone. This would include many native trees such as black walnut, butternut, the hickories and pecan. However, black walnuts have the highest concentration of juglone.

In most cases, the damage caused by black walnuts to other plants is a combination of the presence of juglone in the soil, and the competition for light, water and nutrients.

However, juglone can cause severe damage and even kill solanaceous crops (tomatoes, potatoes, peppers and eggplant). Fortunately, not all plants are

susceptible to the chemical. Most trees, vines, shrubs, annuals, perennials, corn, beans, onions, beets and carrots are tolerant of juglone.

Gardeners who have large walnut trees near their vegetable gardens should consider an alternate site. The greatest concentration of juglone in the soil exists within the dripline of the trees. The dripline is the area between the trunk of the tree and the end of the branches. The toxic zone from a mature tree occurs on average in a 50-foot radius from the trunk. Avoid planting your garden in these areas to protect your garden from damage.

Walnut leaves can be composted because the juglone toxin breaks down when exposed to air, water and bacteria. The toxic effect can be degraded in two to four weeks. In the soil, breakdown may take up to two months after the living walnut tree has been removed. Mulch or woodchips from black walnut are not recommended for plants sensitive to juglone. However, composting the woodchips for a minimum of six months allows the chemical to break down to a safe level even for plants sensitive to juglone.

Plants Sensitive to Juglone

Herbaceous Perennials

- Columbine
- Asparagus
- Chrysanthumum species (some)
- Hydrangea species
- Lilies (particularly the Asian hybrids)
- Alfalfa
- Narcissus
- Peonies (some)
- Rhubarb

Trees

- European Alder
- White Birches
- Hackberry
- Crabapples
- Norway Spruce

Shrubs

- Red Chokeberry
- Privet (some)
- Rhododendrons
- Lilacs
- Yew

Vegetables

- Cabbage
- Peppers
- Tomatoes
- Eggplant
- Potato

Plants Tolerant of Juglone

Trees, Shrubs and Vines

Most trees, shrubs and vines can be grown near black walnut trees with little to no effect on the plant health.

Annuals

- Pot Marigold
- Begonia, fibrous cultivars
- Morning Glory
- Pansy Viola
- Zinnia species
- Most other annuals

Vegetables

- Squashes
- Melon
- Beans
- Carrots
- Corn

Fruit Trees

- Peach
- Nectarine
- Cherry
- Plum

Herbaceous Perennials

- Bugleweed
- Hollyhock
- American Wood Anemone
- Jack-in-the-Pulpit
- European Wild Ginger
- Astilbe species
- Bellflower
- Chrysanthemum species (some)
- Glory-of-the-Snow
- Spring Beauty, Claytonia virginica
- Crocus species

- Dutchman's Breeches
- Leopard's-Bane
- Crested Wood Fern
- Spanish Bluebell
- Winter Aconite
- Snowdrop
- Sweet Woodruff
- Herb Robert
- Geranium
- Grasses (most)
- Jerusalem Artichoke
- Common Daylily
- Coral Bells
- Orange Hawkweed
- Hostas
- Siberian Iris
- Phlox
- Sedum
- Lamb's Ear
- Spiderwort

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