

Tree Management Practice Note No. 4 :
樹木管理作業備考第4號 :

Management of Brown Root Rot Disease Infected Tree
管理受褐根病感染的樹木

1. Introduction (簡介)

Brown Root Rot Disease (BRRD) is caused by the aggressive fungal pathogen, *Phellinus noxius*, (a white rot fungus) that can lead to swift deterioration in tree health and may result in tree collapse.

褐根病是由有害木層孔菌(*Phellinus noxius*), 一種白腐真菌)所引致。這是一種感染性很強的病原菌, 可迅速損害樹木的健康, 更可能令樹木倒塌。

BRRD can be transmitted through root contact, contaminated soil, ground water, surface water, and even through the air.

褐根病可經由根部接觸、受污染的泥土、地面及地下水, 甚至通過空氣傳播。

It is an international disease prevalent in tropical and subtropical regions with no effective cure. There have been numerous claims of cures or effective management, but it is widely accepted that once a tree is infected, it cannot be cured.

褐根病是一種世界性的病害, 常見於熱帶及亞熱帶地區, 現時沒有有效的根治方法。曾有不少人聲稱有方法根治或有效管理褐根病, 但廣泛認同樹木一經感染, 該病便無法根治。

2. Objective (目的)

BRRD has devastating impact on our landscape, so its transmission should be contained as far as practicable. Once a site is infected, it must be completely disinfected. This Practice Note serves to brief on the removal of BRRD infected trees and site disinfection so as to prevent further spread of the disease.

褐根病對我們的園境造成破壞性的影響, 因此應盡可能控制病菌傳播。種植的地方一經感染, 便必須徹底消毒。本作業備考旨在簡介移除受褐根病感染的樹木及現場消毒以遏止疾病蔓延。

3. Symptoms and Signs of BRRD Infected Trees
(受褐根病感染樹木的症狀和病徵)

Symptoms 症狀

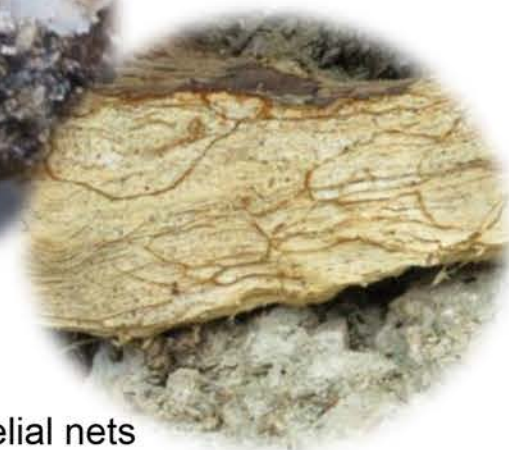
Sparse foliage density 葉片稀疏



Signs 病徵



Soil aggregates
泥粒



Mycelial nets
菌絲網紋



Mycelial crust
菌絲面

Reduced leaf size 葉片變小
 Chlorotic foliage 萎黃葉片

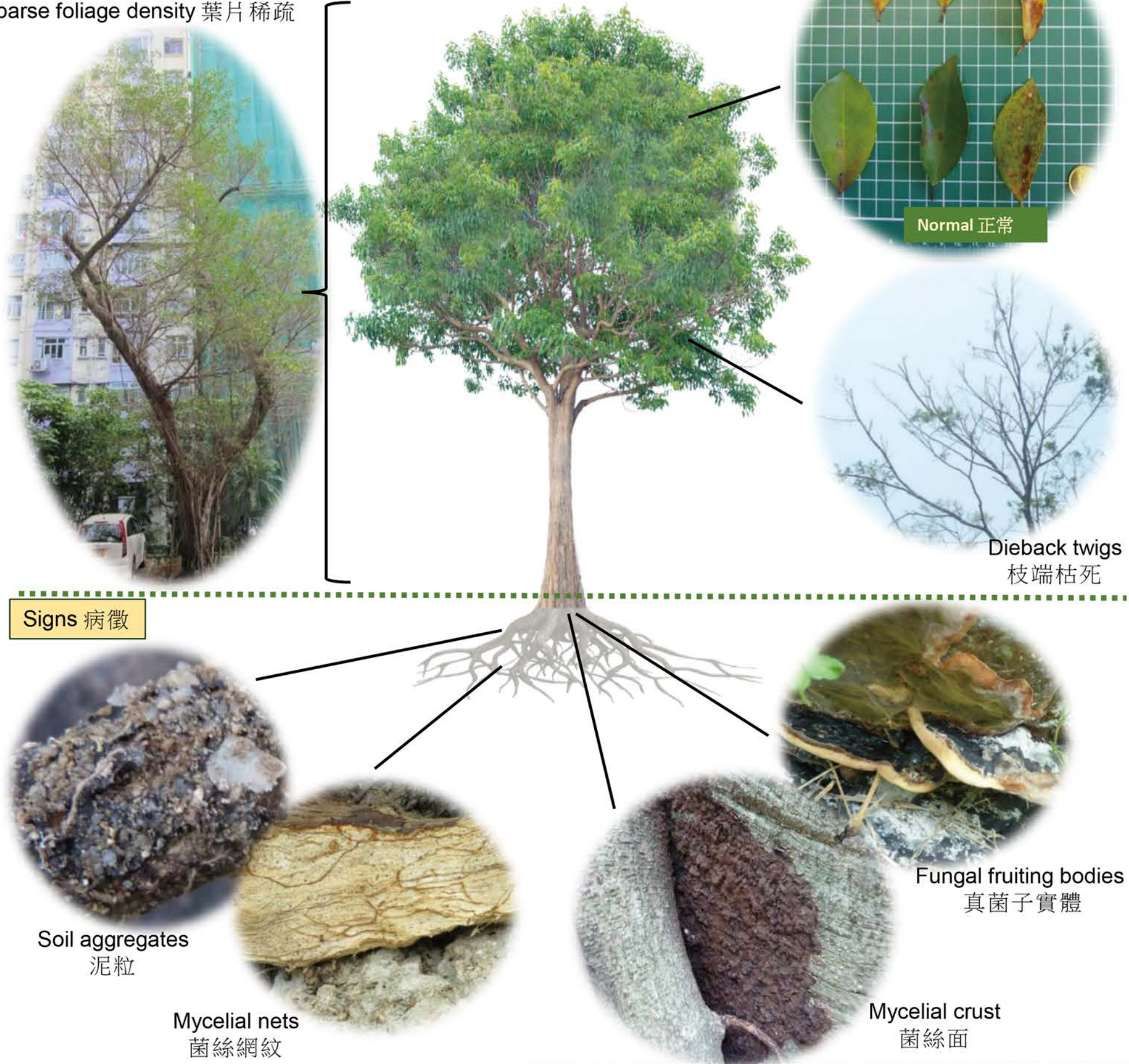
Abnormal 不正常



Normal 正常



Dieback twigs
枝端枯死



4. Removal of BRRD Infected Trees

(移除感染褐根病樹木)

(i) Engagement of qualified personnel (聘請合資格人士)

Engage qualified personnel with arboricultural knowledge and understanding of the disease and occupational safety and health to carry out and supervise tree removal works.

聘請具有樹藝知識並了解疾病和職業安全與健康的合資格人士執行和監督移除樹木的工作。

(ii) Tree removal procedures (移除樹木程序)

- a. Take measures to prevent accidental dissemination of contaminated soil/infected tissues to the surrounding environment during operation.

採取措施，以免受污染的泥土／受感染組織於運作期間不慎向四周散布。

- b. Remove vegetation (e.g. shrubs, perennials or herbs) within the infected area.

移除受感染範圍內的植物(如灌木、多年生植物或草本植物)。

- c. Remove the tree branches and trunk.

移除樹枝及樹幹。

- d. Keep all removed tree parts and vegetation within the delineated works area.

將所有移除的樹木部分和植物保留在劃定的工作範圍內。

- e. Apply disinfectant (e.g. 70% ethanol, 1:49 bleach solution, fungicides and soil fumigants, etc.) to the removed tree parts and vegetation thoroughly.

將消毒劑(例如70%乙醇，1:49漂白劑溶液，殺真菌劑和土壤熏蒸劑等)徹底塗抹在移除的樹木部分和植物上。

- f. Remove tree stump and roots that are larger than 1cm in diameter within the infected area.

移除樹樁及受感染範圍內直徑大於1厘米的根。

- g. Apply disinfectant to the removed stump and roots thoroughly.

在移除的樹樁和根施放消毒劑。

- h. Excavate and remove all soil to a depth of 1m within the infected area.

挖掘並移除受感染範圍內1米深的所有土壤。

- i. Apply disinfectant to the removed soil thoroughly.

在移除的土壤施放消毒劑。

- j. Pack the removed materials, including removed tree parts and vegetation into durable and disposable bags, and then upload them onto a designated vehicle.

將移除的物料(包括移除的樹木部分和植物)封存在耐用的即棄袋子中，然後放上指定車輛。

- k. Cover the materials properly to avoid accidental spread of the materials during transportation.

適當地覆蓋物料，以免在運輸過程中物料意外擴散。

“Video on Proper Removal and Follow-up Procedures of BRRD infected Tree” can be downloaded from the following website –

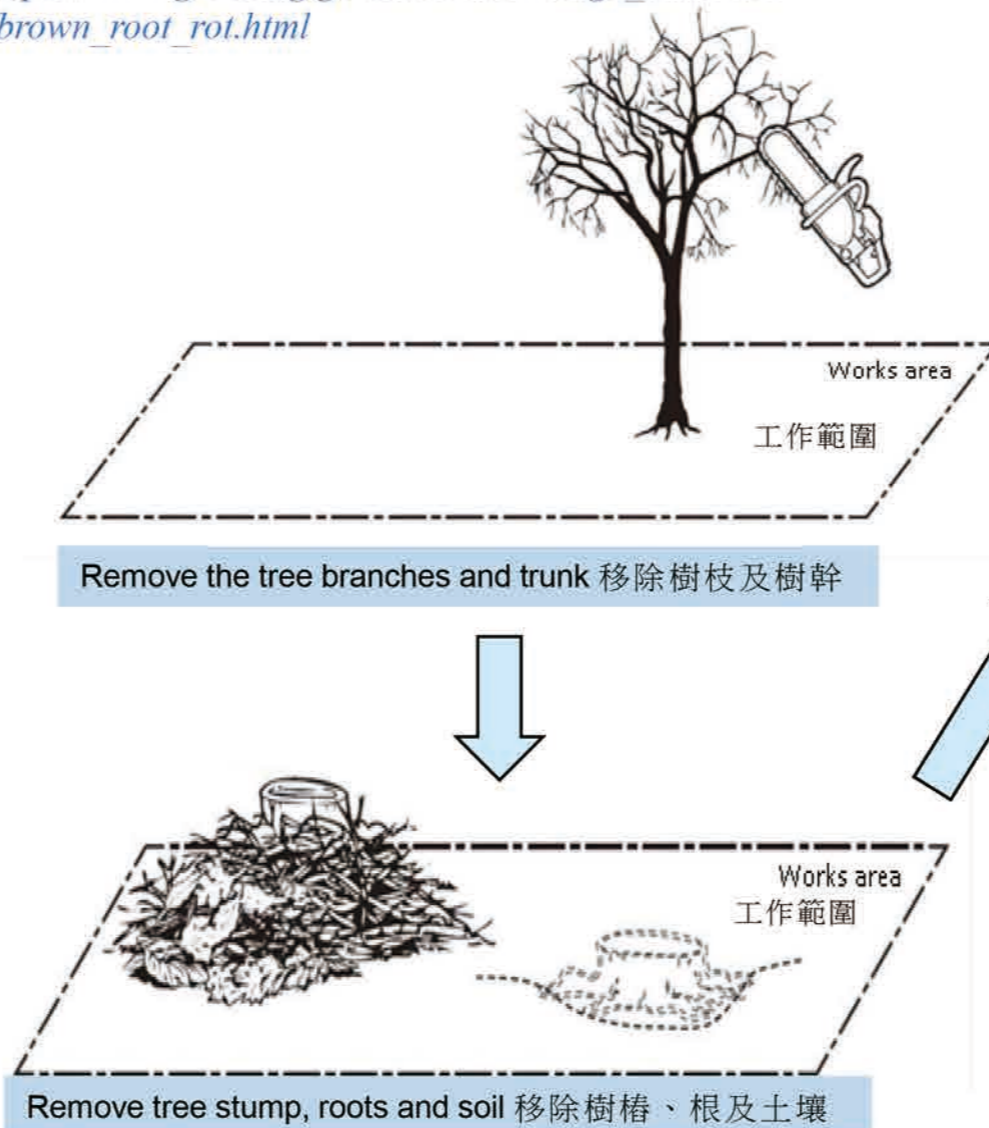


https://www.greening.gov.hk/en/knowledge_database/brown_root_rot.html

《有關移除褐根病感染樹木的正確程序和後續工作的影片》，可於以下網址下載：



https://www.greening.gov.hk/tc/knowledge_database/brown_root_rot.html



(iii) Disinfection procedures after operation (作業後的消毒程序)

- a. Disinfect the site, used tools and transportation equipment thoroughly after operation.

有關作業完成後，把場地、曾使用的工具及運輸設備徹底消毒。

- b. Avoid tree replanting if disinfection or replacement of soil cannot be done due to site constraint.

如因地點限制而無法為土壤消毒或換上新土，應避免在該地點補種新樹。

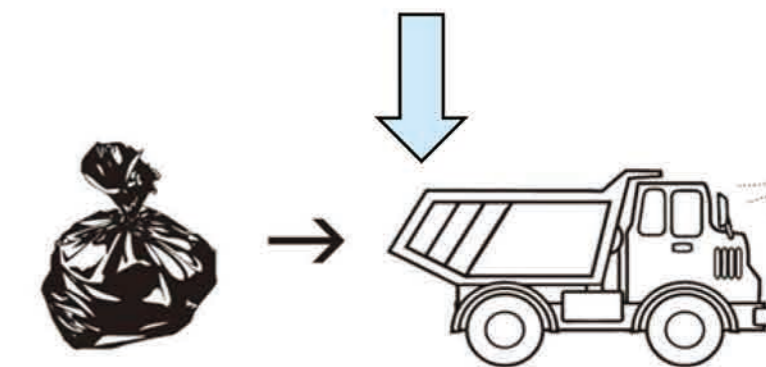
5. Enquiry and Feedback (查詢和反映意見)

Any enquiry and feedback should be directed to the Greening, Landscape and Tree Management Section of Development Bureau. (E-mail Address: gltms@devb.gov.hk).

如有查詢及意見，請與發展局綠化、園境及樹木管理組聯絡(電郵地址：gltms@devb.gov.hk)。



Apply disinfectant and pack the removed materials 施放消毒劑及封存移除的物料



Upload the bags onto a designated vehicle 將封存的物料放上指定車輛

6. Reference (參考資料)

Handbook on Tree Management of Development Bureau (<https://www.greening.gov.hk/tc/home/index.html>)

發展局《樹木管理手冊》(<https://www.greening.gov.hk/tc/home/index.html>)

