



Canadian Food
Inspection Agency

Agence canadienne
d'inspection des aliments

Pest categorization

Gibbera vacciniicola (Dearn. & House) M.E. Barr

Gibbera twig blight



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Background

The purpose of this categorization is to determine whether *Gibbera vacciniicola* (Gibbera twig blight) has the potential to satisfy the criteria in the definition for a quarantine pest. The method used by the CFIA to initiate and conduct this categorization is consistent with international guidelines set by the International Plant Protection Convention (IPPC). Definitions follow those listed in the IPPC's *Glossary of phytosanitary terms*.

Initiation point: This categorization was identified via a Commodity Risk Assessment on blueberry plants from Canada to the UK for the Jens-Georg Unger Plant Health Fellowship project, funded by the European and Mediterranean Plant Protection Organisation (EPPO). This project was led by a visiting scientist from the UK Department for the Environment, Food and Rural Affairs, utilising the tools and templates of the Canadian Food Inspection Agency and coordinating with experienced Canadian risk assessors.

Identification of the PRA area: The PRA area is all of the UK.

Current regulatory status: *Gibbera vacciniicola* is not currently regulated as a pest in the UK or believed to be regulated by any other EPPO member countries (EPPO 2022). However, this fungus is regulated by New Zealand (MPI 2022).

Identity of organism

Name: *Gibbera vacciniicola* (Dearn. & House) M.E. Barr (Venturiaceae)

Synonyms: *Dothidella vacciniicola* Dearn. & House

English common names: Gibbera twig blight, twig canker

French common names: N/A

1. Is the organism clearly a single taxonomic entity and can it be adequately distinguished from other entities of the same rank?

Yes

If no

Go to 2

Go to 11

Gibbera vacciniicola is identified by causing black, raised, cushion-shaped fruiting bodies (known as stromata) on twigs and stems of highbush blueberry (*Vaccinium corymbosum*). These fruiting bodies can occur on their own or in groups and have a red outline. The spore-bearing cells (asci) are oblong to cylindrical, and the spores themselves (ascospores) are green, yellow or brown, thicker at the base with ends rounded (Barr 1968; House *et al.* 1915).

Presence in the PRA area

2. Does the organism occur in the PRA area?

If yes

No

Go to 3

Go to 5

Gibbera vacciniicola is not known to occur in the UK (GBIF 2022).

3. Is the organism widely distributed in the PRA area?

If yes

If no

Go to 11

Go to 4

Regulatory status

4. Is the organism under official control in the PRA area or is it a potential candidate for official control?

If yes

Go to 5

If no

Go to 11

Potential for establishment and spread in the PRA area

5. Does the PRA area have climatic conditions suitable for establishment and spread of the organism?

Yes

Go to 6

If no

Go to 11

6. Does the PRA area have ecological conditions suitable for establishment and spread of the organism?

Yes

Go to 7

If no

Go to 11

The native range of this fungus appears to be North America, although its exact distribution within this region is uncertain (Barr 1968; CPDS 2008; GBIF 2022). *Gibbera vacciniicola* has been reported in several states in the US (Delaware, New Hampshire, New York, North Carolina and Massachusetts), and is particularly common in New Hampshire (Barr 1968; ENYCH 2015; Polashock *et al.* 2017). Given the distance between North Carolina and the other listed states, it is possible that this fungus has a wider distribution than reported and/or has been spread to North Carolina by human activities. It has also been identified in the Canadian provinces of Quebec and Ontario (GBIF 2022; Polashock *et al.* 2017).

Gibbera vacciniicola has also been reported in Belarus, outside of its native range, but the relevant cited study could not be traced (Pleskatsevich and Vasekha 2019). This report remains uncertain. One cited study identified *Gibbera myrtilli* in Belarus, so the two species may have been confused (Плескацевич and Берлинчик 2012). No other reports of this fungus outside of its native range could be identified.

Ascospores of *Gibbera vacciniicola* are released during rainy periods. Unfortunately, few other details on the epidemiology of this fungus are known (Polashock *et al.* 2017). Still, considering the similarities in climate between eastern North America and the UK, and the high possibility of rainfall in the UK, it is likely that the conditions for infection could be met in the PRA area.

Gibbera vacciniicola attacks highbush blueberry (*Vaccinium corymbosum*). This species is present in urban areas (e.g. gardens) in the UK and in cultivated areas such as fields, nurseries, and garden centres, that could enable the establishment and spread of this fungus (RHS 2022b).

Potential for economic and environmental consequences in the PRA area

7. Is the organism a known pest in its area of current distribution?

Yes **Go to 9**
If no Go to 8

8. Does the organism have intrinsic attributes that indicate that it could cause significant harm to plants?

If yes Go to 9
If no Go to 11

9. With specific reference to the plants or habitats which occur in the PRA area, could the organism by itself, or acting as a vector, cause significant damage or loss to plants leading to negative economic, environmental, societal or export market impacts?

If yes Go to 10
No **Go to 11**

Fruit yield may be reduced and infected twigs may be pre-disposed to winter injury or even killed following the development of girdling cankers (Miles *et al.* 2020). Up to 40% twig and stem dieback has been reported on the cultivar Northland which is highly susceptible (ENYCH 2015; Moore 2016). Cultivars Berkeley and Herbert are also susceptible, yet differences in cultivar susceptibility have been observed and *Gibbera* twig blight has not been reported in any other cultivars of blueberry (ENYCH 2015; Polashock *et al.* 2017).

Highbush blueberry is cultivated in the UK and could be at risk of this disease. The value of the GB blueberry-growing economy is currently valued at £32 million ex-farm (Jack Evans, British Summer Fruits, pers. comm., Jun. 10, 2022). However, the plants grown for commercial blueberry production in

Great Britain do not include any identified susceptible cultivars, though these cultivars are sold in small numbers as ornamental plants for gardens (LoveFreshBerries 2022; RHS 2022a). Finally, native *Vaccinium* species, such as *V. vitis-idaea* and *V. myrtillus* in the wild, could also be affected by this fungus although their host status is unknown.

Conclusion

10. This organism has the potential to satisfy the definition of a quarantine pest.

11. This organism does not fulfill all of the criteria for a quarantine pest.

The distribution of *Gibbera vacciniicola* appears to be limited to eastern North America. There is no substantial evidence suggesting that it has spread to countries outside of its native region but, based on our limited knowledge of this pathogen, it appears that this fungus could establish and spread in the UK climate. However, based on the cultivars *G. vacciniicola* infects, it would not cause significant damage in the UK and therefore does not fulfill all of the criteria for a quarantine pest. This conclusion was drawn from the cultivar host range of *Gibbera* twig blight and should be re-evaluated in the future if more information on the epidemiology of this fungus is found, for example, if its host range includes wild *Vaccinium* species or blueberry cultivars that are grown in the UK.

References

- Barr, M. 1968.** The Venturiaceae in North America. *Canadian Journal of Botany* 46(6):799-864.
- CPDS. 2008.** Canadian Plant Disease Survey 2008 Volume 88: Disease Highlights 2020. *Canadian Journal of Plant Pathology* 88:1-135.
- ENYCH. 2015.** Berry News. Pages 6 *in* C. University, ed. Eastern NY Commercial Horticulture Program.
- EPPO. 2022.** EPPO Global Database. EPPO, Paris, France, <https://gd.eppo.int/>.
- GBIF. 2022.** Global Biodiversity Information Facility. [Online] Available: <https://www.gbif.org/> [May. 31, 2022].
- House, C., Newland, D. and Peck, C. 1915.** Report of the State Botanist: 1913. University of the State of New York.
- LoveFreshBerries. 2022.** Blueberries. [Online] Available: <https://www.lovefreshberries.co.uk/berry-facts/blueberries> [July. 11, 2022].
- Miles, T., Isaacs, R., Landis, J. and Marienfield, M. 2020.** A Pocket Guide to IPM Scouting in Highbush Blueberries. [Online] Available: <https://www.canr.msu.edu/blueberries/uploads/files/BlueberryGuide-online-FINAL.pdf> [July, 04, 2022].
- Moore, G. 2016.** Review of the identification and control of progressive dieback symptoms in blueberry. Agric Hortic Dev, Board, UK.
- MPI. 2022.** Official New Zealand Pest Register. [Online] Available: <https://pierpesterregister.mpi.govt.nz/PestsRegister/ImportCommodity/> [July, 06, 2022].
- Pleskatsevich, R. and Vasekha, E. 2019.** Reducing the harmfulness of diseases of blueberry shoots with a high fungicide Raek. *Agriculture and crop production*(4):21-24.
- Polashock, J., Caruso, F., Averill, A., Schilder, A. and Press, A. 2017.** Compendium of blueberry, cranberry, and lingonberry diseases and pests. Am Phytopath Society.
- RHS. 2022a.** *Vaccinium* 'Northland' (F). [Online] Available: [https://www.rhs.org.uk/plants/231119/vaccinium-northland-\(f\)/details](https://www.rhs.org.uk/plants/231119/vaccinium-northland-(f)/details) [July. 11, 2022].
- RHS. 2022b.** *Vaccinium corymbosum* [Online] Available: [https://www.rhs.org.uk/plants/18670/vaccinium-corymbosum-\(f\)/details](https://www.rhs.org.uk/plants/18670/vaccinium-corymbosum-(f)/details) [June. 21, 2022].
- Плескацевич, Р. and Берлинчик, Е. 2012.** Наиболее распространенные болезни в плодоносящих насаждениях голубики высокой. *Прос. Голубиководство в Беларуси: итоги и перспективы: матер респ науч-практ конф, Минск.*