

# **Draft Assessment Report (DAR)**

**- public version -**

**Initial risk assessment provided by the rapporteur Member State  
Estonia for the existing active substance**

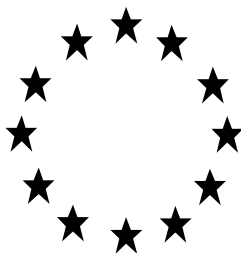
**PHLEBIOPSIS GIGANTEA**

**of the fourth stage of the review programme  
referred to in Article 8(2) of Council Directive 91/414/EEC**

**Volume 3, Annex B, part 6, B.10**

**September 2008**

# Draft Assessment Report



## *Phlebiopsis gigantea*

### **Volume 3**

#### **Annex B.10**

#### **Summary and evaluation of environmental impact**

Rapporteur Member State: Estonia

April 2007



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**Volume 1**

**Level 1: Statement of subject matter and purpose for which the monograph was prepared**

**Level 2: Reasoned statement of the overall conclusions drawn by the Rapporteur Member State**

Appendix 1: Standard terms and abbreviations

Appendix 2: Specific terms and abbreviations

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**Level 3: Proposed decision with respect to the application for inclusion of the active substance in Annex I**

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**Volume 3**

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## Annex B.10: Summary and evaluation of environmental impact

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WARNING: This document forms part of an EC evaluation data package and should not be read in isolation. Registration must not be granted on the basis of this document.

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## Annex B.10: Summary and evaluation of environmental impact

**B.10 Summary and evaluation of environmental impact (Annex IIB 9; Annex IIB 11)****B.10.1 Distribution and fate in the environment, and the time courses involved**

*P. gigantea* is found throughout the temperate Northern Hemisphere and has also been recorded in southern Europe, East Africa, Central America, Australia and New Zealand. There is some degree of variation within populations of *P. gigantea*. However, studies of sexual compatibility indicate that all European populations are interfertile, demonstrating that *P. gigantea* is a single species and there are no distinct geographic eco-types (Korhonen & Kauppi, 1988; Grillo *et al.* 2005; see also Volume 3 Annex B.1 "Identity"). Therefore it should be acceptable to consider all the isolates supported in this DAR together. Further information on the isolates is found in Volume 3 Annex B.1 "Identity".

*P. gigantea* is a saprophytic wood-rotting fungus, whose main host is moribund wood. Airborne spore numbers can naturally be very high in coniferous forests as demonstrated by measuring spore deposition rates in managed forests. In one UK forest over 80% of spore traps had one or more viable spores deposited per hour, with a mean rate from five sites of around 10 spores per 100cm<sup>2</sup> hr<sup>-1</sup>. These rates were recorded between March 1957 and August 1958, approximately 10 years after first thinning of the newly-planted pine forest began, and before any treatments with *P. gigantea* had begun in that area. More recent measurements of spore deposition in forests where treatment has been carried out demonstrate no overall increase in levels of *P. gigantea* (see Volume 3, Annex B.8: "Fate and behaviour in the environment")

*P. gigantea* is targeted onto the stump surface during stump treatment and is rapidly absorbed into the wood. It grows into the wood and effectively prevents colonisation by the pathogen *H. annosum* through competition for the woody resource. The fungus will remain growing within the stump for up to 6 years, depending on the host species, but after this time will gradually be replaced through natural processes of fungal succession and stump degradation (see Volume 3, Annex B.8: "Fate and behaviour in the environment").

The simple co-formulants used in the representative product Rotstop are of food or feed grade (see Confidential information, Document C) and some are already present in the natural environment. Furthermore, the amounts that are spread in nature in each harvesting operation are negligible (the application rate is (max) 2g Rotstop/ m<sup>2</sup> stump surface, equalling (max) 20 and 100g product/ha in first thinnings and final fellings, respectively (see Volume 3, Annex B.3: "Data on application and further information").

**B.10.2 Identification of non-target species and populations at risk, and the extent of their potential exposure**

*P. gigantea* is a specialised fungus which lives within moribund wood such as fallen branches and recently cut stumps. It is a common component within the forest environment. It is a natural component of forest ecosystems, and its spores will be present in the air and on most exposed surfaces within a forest environment. There is no evidence in the literature to indicate that *P. gigantea* is toxic, infective or pathogenic to birds, fish, mammals, aquatic invertebrates, algae, aquatic plants, bees, earthworms or soil micro-organisms. It has a very limited ability to grow within wounded (but not intact) living forest trees, and is not toxic, infective or pathogenic to other plants within the forest environment. There is some indication of a competitive interaction between *P. gigantea* and certain arthropods sharing the same ecological niche (see Volume 3, Annex B.9: "Effects on non-target organisms"), but in general *P. gigantea* is not thought to be toxic, infective or pathogenic to arthropods. Thor *et al.*, 1997b (see Volume 3, Annex B.9: "Effects on non-target organisms") reviewed the impact of various stump treatments on the environment, and could find no evidence to suggest *P. gigantea* caused harm to non-target species.

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## Annex B.10: Summary and evaluation of environmental impact

Stump treatment with *P. gigantea* is targeted onto the stump surface and so it is highly unlikely that living trees, under-storey vegetation, birds, fish, mammals, aquatic invertebrates, algae, aquatic plants, bees, earthworms or soil micro-organisms will be exposed to higher levels of the fungus than those already present naturally.

The one non-target organism for which a possible risk could be identified was honeybees as representative of non-target arthropods (arthropods can be happen to be nearby when stump treatment is carried out). A study on the toxicity of *P. gigantea* to bees was carried out using the formulated product Rotstop, but as expected, it revealed no evidence for oral or contact toxicity to honeybees (see Volume 3, Annex B.9: "Effects on non-target organisms").

It is important to bear in mind that *P. gigantea* is a natural component of forest ecosystems and its spores will be present in the air and on most exposed surfaces within a forest environment (see Volume 3 Annex B.1 "Identity"). Information summarised in Volume 3, Annex B.8: "Fate and behaviour in the environment" illustrates that levels of spores applied during treatment are small in comparison to natural spore loads, and that treatment operations do not increase the ambient spore levels within the forest.

**B.10.3 Identification of precautions necessary to avoid or minimise contamination of the environment, and for the protection of non-target species**

As illustrated Volume 3, Annex B.8: "Fate and behaviour in the environment" *P. gigantea* is already a very common component of the forest ecosystem, and spores are present in the atmosphere for most of the year. Therefore no precautions are necessary to minimise environmental contamination and protect non-target species.

*P. gigantea* is a non-toxic organism and the simple co-formulants within the commercial products are non-toxic and of food or feed grade. In addition, application of stump treatment is targeted onto the stump surface where it is quickly absorbed, and the product is only applied very infrequently within forest stands. A single stand will be treated no more than once every 5-15 years depending on the tree species and geographic area. Therefore, the risk of the product having any harmful effects on non-target species, and the environment in general, is low (see Volume 3, Annex B.9: "Effects on non-target organisms"). No specific precautions are necessary to minimise environmental contamination and protect non-target species.