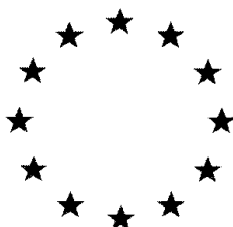


European Commission



VOLUME 3 – Annex B (AS)

Laminarin

B.3 Data on application and further information

Rapporteur Member State: The Netherlands

April 2016

**Draft Re-Assessment Report and Proposed decision of the Netherlands
prepared in the context of the possible renewal of laminarin under Regulation
(EC) 1107/2009**

Version history page

Date	Version history
April 2016	Initial RAR

TABLE OF CONTENTS – VOLUME 3 B.3

B.3	Data on application.....	4
B.3.1	Use of the active substance	4
B.3.2	Function	4
B.3.3	Effects on harmful organisms	4
B.3.4	Field of use envisaged.....	4
B.3.5	Harmful organisms controlled and crops or products protected or treated	4
B.3.6	Mode of action	4
B.3.7	Information on the occurrence or possible occurrence of the development of resistance and appropriate management strategies	5
B.3.8	References relied on	5

B.3 Data on application

B.3.1 Use of the active substance

Laminarin is intended to be used as an elicitor of the crop's self-defence mechanisms against pathogens on various crops. By inducing systemic resistance on plants, this allows protection during growth. Laminarin-based formulations are used alone or in combination with fungicides for the protection of crops against fungal diseases and bacteria.

B.3.2 Function

Elicitor of the crop's self-defense mechanisms.

B.3.3 Effects on harmful organisms

Laminarin is an elicitor of the crop's self-defense mechanisms and as such has no direct effect on harmful organisms. It stimulates the natural defences of the plant against pathogens, i.e. it enhances defense reactions which inhibit the development of pathogens. Laminarin will afford a systemic protection to the plant against pathogens like:

- fungi, including oomycetes : *Bremia lactucae* on lettuce ; *Botrytis* sp, *Leveillula taurica* and *Pseudoperonospora cubensis* on vegetables and fruits *Botrytis cinerea*, *Diplocarpon earlianum*, , *Phytophthora cactorum* and *Podosphaera aphanis*, on strawberry ; *Gloeosporium* spp., *Podosphaera leucotricha*, *Venturia inaequalis* on apple trees ; *Erysiphe necator* on grapevine.
- bacteria : *Erwinia amylovora* on apple and pear trees, *Pseudomonas syringae* on tomato, *Pseudomonas syringae* pv. *actinidiae* on kiwi.

B.3.4 Field of use envisaged

Agriculture.
Field and Glasshouse use (F, G).

B.3.5 Harmful organisms controlled and crops or products protected or treated

Please see GAP table of representative uses in Volume 1, level 1: 1.5.1 for a full list of harmful organisms controlled..

B.3.6 Mode of action

Laminarin acts early against crop diseases by inducing natural defence reactions.

Laminarin, a linear β D-1,3-linked glucan, is extracted and purified from the brown alga *Laminaria digitata*. Laminarin being a natural oligosaccharide with a molecular weight of approximately 3240 - 4860 g.mol⁻¹, it is probably not transported in the plants as such. However, due to the systemic properties of the action, it is believed that smaller-sized oligosaccharides resulting from the hydrolysis of Laminarin in the plant would be responsible for this phenomenon.

B.3.7 Information on the occurrence or possible occurrence of the development of resistance and appropriate management strategies

In the Fungicide resistance action committee (FRAC) list of 2015, laminarin is classified under FRAC group P4, as a polysaccharide. Laminarin is a linear β D-1,3-linked glucan. No cases of resistance have been reported.

Laminarin has no direct effect on the pathogen (it stimulates several pathways in the plant cell), the chance that resistance or cross-resistance could develop is considered to be low.

B.3.8 References relied on

This concerns a Renewal. No references submitted.