European Commission

Draft Renewal Assessment Report prepared according to the Commission Regulation (EU) N° 1107/2009

BLOOD MEAL

Volume 3 – B.3 (AS)

Rapporter Member State: Austria
Co-Rapporter Member State: Lithuania

Version History

When	What
2018/02	Original dossier submission by applicant
2018/04	Revised dossier submission by applicant
2018/12	Draft RAR by RMS AT
2019/02	Draft RAR by RMS AT after commenting by Co-RMS LT

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B.3. DATA ON APPLICATION

B.3.1. USE OF THE ACTIVE SUBSTANCE

Blood meal is a game repellent for use in forestry (coniferous and deciduous forest trees), and in agriculture (horticulture: ornamental crop production; fruit production) in the field.

B.3.2. FUNCTION

The active substance blood meal is a non-systemic game repellent. Blood meal is an animal by-product consisting of more than 990 g/kg haemoglobin.

B.3.3. EFFECTS ON HARMFUL ORGANISMS

Blood meal has no direct effect on the target organisms. The nature of a repellent is not to harm the target pest, however, due to its unpleasant taste and odour, blood meal prevents game damaging plants.

B.3.4. FIELD OF USE ENVISAGED

Blood meal is to be used in forestry (deciduous and conifer forest trees) and in agriculture (horticulture: ornamental crop production; fruit production).
The active substance is intended to be used to protect terminal and lateral shoots of deciduous and coniferous forest trees, fruit crops (orchard trees), and ornamental plants (shrubs and trees) against several game species.
Professional and non-professional use

B.3.5. HARMFUL ORGANISMS CONTROLLED AND CROPS OR PRODUCTS PROTECTED OR TREATED

Blood meal is claimed to prevent game damage caused by the following game species:
Red deer (*Cervus elaphus*, CERVEL), fallow deer (*Cervus dama*, DAMADA);
Roe deer (*Capreolus capreolus*, CAPRCA);
Moose (*Alces alces* ALCSAL);
Hare species (*Lepus* sp., LEPUSP), wild rabbit (*Oryctolagus cuniculus*, ORYTCU);
Common vole (*Microtus arvalis*, MICRAR).

Table3.5.1: List of crops/pests current authorised for plant protection products containing the active ingredient Blood meal

Crop	Pest
Deciduous and coniferous trees in forestry	CERVEL, DAMADA, CAPRCA, ALCSAL, LEPUSP, ORYTCU, MICRAR
Orchards/orchard trees	CERVEL, DAMADA, CAPRCA, ALCSAL, LEPUSP, ORYTCU, MICRAR
Ornamental shrubs and trees	CERVSS, DAMADA, CAPRCA, LEPUEU, ORYTCU

Please refer also to the table of intended uses (Volume 3, CP, B.3.3).

B.3.6. MODE OF ACTION

Blood meal acts as a repellent due to its unpleasant smell and taste.

Game repellents containing blood meal will be sprayed or painted on parts of plants (i.e. terminal and lateral shoots), or on entire plants to be protected. The plant parts which should be protected could also be dipped into the solution before planting. After the application the formulated product dries to a protective layer forming a repellent barrier, which prevents game from browsing due to its unpleasant odour and taste. Besides that, the product has no physiological effect on game or on the treated plant.

B.3.7. INFORMATION ON THE OCCURRENCE OR POSSIBLE OCURANCE OF THE DEVELOPMENT OF RESISTANCE AND APPROPRIATE MANAGEMENT STRATEGIES

Blood meal is a repellent which is effective by smell and taste. The unpleasant taste and odour prevents game from browsing. Blood meal coats the surface of the plants and so animals will not ingest the product in large quantities. The repellent does not kill or harm the animals, thus metabolic effects are unlikely.

Therefore typical resistance or cross-resistance mechanisms as known from chemical active substances will not occur. However, even though the presumption of a habituation effect is unlikely, it cannot completely be excluded.

In forestry, only the economically relevant trees will be protected with the game repellent and other trees and shrubs stayed unprotected serving game finds alternative feed. But if there is lack of food in winter game is able to migrate to places with a better availability of feed. The game populations are no isolated populations. The selection pressure of a game repellent is very low thus and the likelihood of developing of resistance.

In fruit production and in ornamental plant production all plants will be treated to prevent damage and economic losses. Furthermore, at fenced sites migration is limited. Therefore habituation is more likely there.

Game repellents with the active ingredient blood meal have been used for several decades. No incidence of game species resistant against blood meal, or habituated to blood meal, was reported.

B.3.8. REFERENCES RELIED ON

Data Point	Author(s)	Year	Title Company Report No. Source (where different from company) GLP or GEP status Published or not	Vertebrate study Y/N	Data protection claimed Y/N	Justification if data protection is claimed	Owner	Previous evaluation
KCP 3/01	Reh, P.	2013	Biological Assessment Dossier – Certosan Versuchswesen Pflanzenschutz, Germany Report No.: not stated Report date: 2013-08-31 Non-GEP, unpublished	N	Y	New study	FLU	Yes[1]

FLU: Flügel GmbH

[1] Product assessment on national level (Zonal assessment Central zone)