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**Datasheet for the decision
of 18 July 2007**

Case Number: T 0172/05 - 3.3.01

Application Number: 00904684.8

Publication Number: 1154694

IPC: A01N 63/02

Language of the proceedings: EN

Title of invention:

Control of mange

Applicant:

Pinnock, Dudley Edwin

Opponent:

-

Headword:

Control of mange/PINNOCK

Relevant legal provisions:

EPC Art. 56

Keyword:

"Inventive step (no) - solution obvious to try with a reasonable expectation of success"

Decisions cited:

T 0318/02

Catchword:

-



Case Number: T 0172/05 - 3.3.01

D E C I S I O N
of the Technical Board of Appeal 3.3.01
of 18 July 2007

Appellant: Pinnock, Dudley Edwin
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Decision under appeal: Decision of the Examining Division of the
European Patent Office posted 16 July 2004
refusing European application No. 00904684.8
pursuant to Article 97(1) EPC.

Composition of the Board:

Chairman: A. J. Nuss
Members: C. M. Radke
D. S. Rogers

Summary of Facts and Submissions

- I. The appeal lies from the decision of the examining division to refuse the application.
- II. The examining division decided that the subject-matter lacked inventive step in view of the teaching of document (D15) as the closest prior art if combined with the disclosure of document (D16).
- III. The Board issued a communication annexed to the summons to oral proceedings in which it introduced additional documents (D17) and (D18) and outlined its preliminary and non-binding opinion on their relevance for the assessment of novelty and inventive step of the subject-matter claimed.
- IV. The claims on file are claims 1 to 6 of the Main Request and claims 1 to 5 of the Auxiliary Request, all submitted during the oral proceedings before the Board.

The only independent claim of the Main Request reads as follows:

"1. Use of thuringiensin for the preparation of a composition for the treatment of animal parasitic mite infestations, wherein the mite is a sarcoptiform."

The only independent claim of the Auxiliary Request reads as follows:

"1. Use of thuringiensin for the preparation of a composition for the treatment of animal parasitic mite

infestations, wherein the mite is a mange mite or scab mite."

V. The following documents were inter alia cited in the examination and appeal proceedings:

(D15) R. N. Royalty et al., *Journal of Economic Entomology*, vol. 83, no. 3 (June 1990), 792-798

(D16) P. Lüthy and H. R. Ebersold, *Pharmac. Ther.*, vol. 13 (1981), 257-283

(D17) D. E. Pinnock, *Agriculture, Ecosystems and Environment*, vol. 49 (1994), 59-63

(D18) J. Drummond and D. E. Pinnock, *Agriculture, Ecosystems and Environment*, vol. 49 (1994), 15-19

(D19) B. A. Mullens and J. L. Rodriguez, *Insecticide and Acaricide Tests*, vol. 13 (1988), 417

VI. The Appellant considered document (D18) to represent the closest prior art. This document disclosed the use of thuringiensin against animal ectoparasitic mites of the family *Dermanyssidae* which belongs to the suborder *Mesostigmata* of the order *Acari* (mites). The mites of the family *Sarcoptiformes* referred to in claim 1 of the Main Request, in particular the mange and scab mites of said family referred to in claim 1 of the Auxiliary Request, belong to the suborder *Astigmata*. They are thus very widely separated in the taxonomic tree from the animal ectoparasitic mites disclosed in document (D18). The problem to be solved by the present

invention was to provide a use of thuringiensin against further animal ectoparasitic mites.

Document (D19) showed that thuringiensin was effective against the live stock pest fly *Musca domestica* while it did not reduce the emergence of another muscat fly significantly, i.e. that of *Fannia canicularis*. The person skilled in the art would thus understand that thuringiensin though effective against one family of mites could not be expected to be effective against mites from a different family.

The reference in document (D18) to "Pending its successful registration in the USA, the commercial use of thuringiensin may stimulate further investigation into its potential host range, e.g. against fleas and mites ..." would not have encouraged the person skilled in the art to investigate further into the use of thuringiensin due to its toxicity to mammals reported in document (D16).

VII. The Appellant requested that the decision under appeal be set aside and that a patent be granted on the basis of the claims of the Main Request, or on the basis of the claims of the Auxiliary Request, all submitted during the oral proceedings before the Board.

VIII. At the end of the oral proceedings the decision of the Board was announced.

Reasons for the Decision

1. The appeal is admissible.

2. *Article 123(2) EPC*

Since the Board came to the conclusion that the subject-matter of claim 1 of the Main Request and of the Auxiliary Request is not based on an inventive step, it is not necessary to give reasons as to whether the requirements of Article 123(2) EPC are met.

3. *Novelty*

Documents (D17) and (D18) are the only documents cited during examination and appeal proceedings dealing with the use of thuringiensin for the treatment of animal parasitic mite infestations, i.e. of those of the family *Dermanyssidae* in and of the northern fowl mite *Ornithonyssus sylviarum* (see (D18), Table 1 on page 17 and (D17), page 61, left hand column, lines 1-15). These are different from those of the family *Sarcoptiformes* including mange mites and scab mites referred to in claims 1 of the Main Request and the Auxiliary Request (see the taxonomic tree provided as Appendix 1 to the Appellant's letter dated 03 July 2007). Hence, the subject-matter of claims 1 of both requests is novel. The same holds for the remaining claims of these requests which are dependent from the respective claim 1.

4. *Inventive step*

4.1 In accordance with the "problem-solution" approach consistently applied by the Boards of Appeal, it is necessary, as a first step, to establish the closest state of the art which is normally a prior art document

disclosing subject-matter aiming at the same objective as the claimed invention and having the most relevant technical features in common.

- 4.2 The Board agrees with the Appellant in that document (D18) is the closest prior art.

This document discloses the use of thuringiensin against animal ectoparasitic mites of the family *Dermanyssidae* (see Table 1 on page 17).

- 4.3 The second step is to determine the technical problem which the invention addresses and successfully solves in the light of the closest prior art.

The Board agrees with the Appellant in that the problem to be solved by the present application was to find for thuringiensin a use against other animal ectoparasitic mites.

This problem is solved by the subject-matter claimed by the use of thuringiensin against sarcoptiform mites, particularly against the mange mite or scab mite (see claims 1 of the Main Request and of the Auxiliary Request).

- 4.4 It has now to be determined whether the prior art renders the solution provided in the present claims obvious.

The question to be answered is whether or not the person skilled in the art aiming at the use of thuringiensin against animal ectoparasitic mites other than those of the family *Dermanyssidae* disclosed in

document (D18) would have used it against mites of the family *Sarcoptiformes*, particularly against mange or scab mites.

- 4.4.1 Document (D18) states that "Pending its successful registration in the USA, the commercial use of thuringiensin may stimulate further investigation into its potential host range, e.g. against fleas and mites as discussed by Pinnock (this issue, pp. xx-xx)." (page 17, the paragraph bridging the left-hand and the right-hand columns).

It is to be noted that "Pinnock (this issue, pp. xx-xx)" refers to document (D17) which mentions that the larvae of the livestock pest fly *Musca domestica* are highly susceptible and controlled by thuringiensin whereas those of the related livestock pest *Fannia spp.* are not (see page 60, right-hand column, lines 21-27).

Hence, document (D18) recommends to test thuringiensin on hosts other than those against which it is described to be effective in said document, in particular against mites other than those of the family *Dermanyssidae*, **although** being aware of the fact that thuringiensin is effective against one fly species while not being effective against another one (see the Appellant's argument summarised in the second paragraph of point VI above).

- 4.4.2 The Appellant referred to document (D16) when addressing the toxicity of thuringiensin against mammals (see his argument summarised in the third paragraph of point VI above).

First of all, document (D16) states that it is generally agreed that even high doses of thuringiensin administered orally are not toxic to mammals (see page 278, second paragraph) whereas certain researchers found evidence of the toxicity of thuringiensin after peritoneal injection into mice, and others did not (see the paragraph bridging pages 277 and 278). Secondly, document (D17) published thirteen years after document (D16) mentions that a preparation containing thuringiensin is registered in Finland for control of nuisance flies in intensive piggeries (see (D17), page 60, right-hand column, lines 33-38). Hence, the person skilled in the art knew that thuringiensin is not so toxic as to prevent it from being used against livestock pests.

- 4.4.3 It then has to be determined against **which** further animal ectoparasitic mites the person skilled in the art would have used thuringiensin.

The closest prior art document (D18) refers to document (D17) when recommending further investigation in the host range of thuringiensin (see point 4.4.1 above). So, the skilled person would have consulted document (D17) when deciding against which further animal ectoparasitic mites thuringiensin should be tested.

According to this document, there is evidence that thuringiensin "or one or more of its components" acts as ATP antagonist for RNA polymerase, and thus affects protein synthesis (see page 60, right-hand column, lines 10-13). There is no reason to assume that this mechanism limits the use of thuringiensin to the control of a certain suborder of mites. This is in line

with the statement in document (D18), that thuringiensin is less host specific than the δ -endotoxins of *Bacillus thuringiensis* (see page 17, bottom paragraph of the left column).

Hence, in contrast to the Applicant's argument summarised above under point VI, first paragraph, a skilled person when trying to solve the problem of finding for thuringiensin a use against other animal ectoparasitic mites had no reason to consider as its further use merely that against mites close to the family of *Dermanyssidae* in the taxonomic tree of mites.

Moreover, a skilled person was well informed on the serious effects of scab mites on sheep (see, e.g., the Statutory Instrument 1997 No. 968 (The Sheep Scab Order 1997), which came into force in the United Kingdom on 1 July 1997 and the reference thereto on page 2, lines 1-4 of the present application).

- 4.5 For these reasons, the skilled person would have tried to use thuringiensin against sheep scab mites, thereby arriving at a solution as now claimed in claims 1, 4 and 5 of the Main Request and in claims 1 and 5 of the Auxiliary Request. In this context it is not relevant whether or not the skilled could have **predicted** that thuringiensin controlled scab mites on sheep. For a claimed solution to be obvious, it is sufficient that for a skilled person it would be **obvious to try** something falling within the claims **with a reasonable expectation of success**, on the basis of the existing knowledge (see T 318/02 of 21 September 2004, point 2.7.2 of the reasons). Therefore, the subject-matter of claims 1, 4 and 5 of the Main Request and in

claims 1 and 5 of the Auxiliary Request does not involve an inventive step in the sense of Article 56 EPC.

5. The Board can only judge a request as a whole. As the subject-matter of claims 1, 4 and 5 of the Main Request and of claims 1 and 5 of the Auxiliary Request is not based on an inventive step, both the Main Request and the Auxiliary Request fail to fulfil the requirements of Article 56 EPC.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:

N. Maslin

A. J. Nuss