

**Internal distribution code:**

- (A) [ ] Publication in OJ  
(B) [ ] To Chairmen and Members  
(C) [X] To Chairmen

**D E C I S I O N**  
**of 17 October 1994**

**Case Number:** T 0438/91 - 3.3.4

**Application Number:** 84109126.7

**Publication Number:** 0133547

**IPC:** A23K 1/16

**Language of the proceedings:** EN

**Title of invention:**

Feeds for domestic animals and method for breeding them

**Patentee:**

MEIJI SEIKA KABUSHIKI KAISHA

**Opponent:**

Raffinerie Tirlemontoise S.A.

**Headword:**

Feeds/MEIJI

**Relevant legal provisions:**

EPC Art. 52(4), 54, 56

**Keyword:**

"Therapeutic treatment (yes)"

"Inventive step (no)"

**Decisions cited:**

T 0780/89, T 0019/86, G 0005/83

**Catchword:**

Case Number: T 0438/91 - 3.3.4

**D E C I S I O N**  
of the Technical Board of Appeal 3.3.4  
of 17 October 1994

**Appellant:** Raffinerie Tirlemontoise S.A.  
(Opponent) Avenue de Tervueren, 182  
B-1150 Bruxelles (BE)

**Representative:** Van Malderen, Michel  
p.a. Freylinger & Associés  
22 avenue J.S. Bach (bte 43)  
B-1080 Bruxelles (BE)

**Respondent:** MEIJI SEIKA KABUSHIKI KAISHA  
(Proprietor of the patent) 4-16 Kyobashi 2-chome  
Chuo-ku, Tokyo-To  
Japan (JP)

**Representative:** Müller-Boré & Partner  
Patentanwälte  
Postfach 26 02 47  
D-80059 München (DE)

**Decision under appeal:** Interlocutory decision of the Opposition Division  
of the European Patent Office dated 3 April 1991  
concerning maintenance of European patent  
No. 0 133 547 in amended form.

**Composition of the Board:**

**Chairman:** L. Galligani  
**Members:** D. D. Harkness  
W. Moser

### Summary of Facts and Submissions

- I. European patent No. 133 547 was granted on 19 November 1987 on the basis of patent application No. 84 109 126.7 filed on 1 August 1984 claiming priority from JP 144248/83 of 5 August 1983.
- II. An opposition was filed against the European patent by the Appellant (Opponent) based on Article 100(a) EPC requesting revocation on the grounds of lack of novelty, inventive step and industrial application [Articles 54, 56, 57 and 52(4) EPC].
- III. During the proceedings before the Opposition Division the parties relied upon twenty eight references (documents (1) to (28)). Among them the following were relied upon:
- (5) Kagaku to Seibutsu (Chemistry and living creatures), May 1983, vol. 21, no. 5, pages 291 to 293 (translation into English pages 1 to 4);
  - (7) Bifidobacteria Microflora, 1983, vol. 2, no. 1, pages 41 to 53;
  - (10) Hiju Zasshi (Japanese veterinary Journal), 1976, vol. 29, pages 439 to 442 (translation into English, pages 1 to 8);
  - (17) GB-A-1 499 717;
  - (24) " First Neosugar Res. Conf." Japan 20.05.82, Topic 8, T. Mitsuoka et al. pages 87 to 93 (translation into English pages 1 to 10);
  - (28) Biochem. J., 1965, vol. 95, pages 41 to 47.

IV. On 3 April 1991, the Opposition Division issued an interlocutory decision within the meaning of Article 106(3) EPC whereby the patent was maintained in amended form on the basis of Claims 1 to 3 filed on 29 May 1989 with the amendment to Claim 1 introduced during the oral proceedings on 11 December 1990. The said claims read as follows:

- "1. A method for breeding domestic animals which comprises administering to them a feed containing an ordinary feed for domestic animals and a saccharide which comprises a fructooligosaccharide formed by bonding 1 to 4 fructose molecules to sucrose as a main component.
2. The method of breeding domestic animals as claimed in Claim 1, characterised in that the said feed administered to them comprises an ordinary feed for domestic animals and the saccharide which comprises a fructooligosaccharide formed by bonding 1 to 4 fructose molecules to sucrose as a main component is present in an amount of 0.1 to 5 parts by weight per 100 parts by weight of the said ordinary feed.
3. A feed for domestic animals comprising an ordinary feed for domestic animals and a saccharide which comprises a fructooligosaccharide formed by bonding 1 to 4 fructose molecules to sucrose as a main component, the said saccharide being present in an amount of 0.1 to 5 parts by weight per 100 parts by weight of the said ordinary feed."

V. The Appellant lodged an appeal against the decision of the Opposition Division and with the Statement of Grounds filed inter alia the following additional documents:

(101) J. Nutr. 1979, vol. 109, pages 2247 to 2259,

(102) Biochem Z., 1929, vol. 216, pages 269 to 277.

VI. In reply to the appeal, the Respondent (Patentee) relied upon a new document, namely

(29) A partial English translation of a Japanese publication entitled "Classification and ecology of intestinal flora" by Tomotari Matsuoka, published on 20 March 1986 by Zaidanhojin Shokuseikatsu Kenkyukai.

VII. In a communication pursuant to Article 11(2) of the Rules of Procedure of the Boards of Appeal, the Board informed the parties that (a) decision T 780/89 (OJ EPO 1993, 440) would be taken into account when considering the allowability of Claims 1 and 2 under Article 52(4) EPC and (b) prior art documents (17) and (24) would be considered in respect of inventive step of Claim 3 (Article 56 EPC).

VIII. Oral proceedings took place on 17 October 1994.

During oral proceedings the Respondent filed an auxiliary request limited to product Claim 3 of the main request as sole claim.

IX. The Appellant argued essentially as follows:

(a) The subject-matter of Claims 1 and 2 relates to a therapeutic or prophylactic method having regard to T 780/89 (loc.cit.) and as such is not allowable

under Article 52(4) EPC. In particular the claimed method of breeding has two inseparable effects, namely (a) to cure scours in domestic animals and (b) at the same time to increase the weight of animals, which effects have the same objective to maintain or restore the health of the animals, (cf. points 3.5 and 3.7 of the Reasons of said decision). The circumstances of the present case correspond very closely with those of the quoted decision because the effect of weight gain is merely a secondary effect of the successful therapeutic administration of the saccharide in order to prevent or cure scours. This secondary effect does not deprive the claimed method of the character of a therapeutic treatment excluded from patentability in accordance with Article 52(4) EPC (see point 7 of the Reasons of said decision).

- (b) The claimed subject-matter is obvious having regard to the combination of documents (17) and (24).

The problem solved by the patent in suit is given in lines 32 to 33 on page 1 and this problem equates, (save for the use of fructooligosaccharides), with the statement made in document (17) at page 16, lines 13 to 18 where lactulose is used in feed compositions and has proved to be effective for the improvement of weight increase and intestinal bacterial flora in animals, it being known also from page 1, lines 21 to 27 that lactulose is a bifidus factor having favourable effects on infants and calves when administered to them in feed. Tables 8, 9 and 10 of document (17) demonstrate that lactulose was used in an amount falling within the range as specified in the claims and that a weight increase was obtained as a result of using the lactulose feed.

The in vitro and in vivo experiments described in document (24) which utilise Neosugar (being a GF<sub>2-5</sub> fructooligosaccharide) demonstrate that this sugar is a superior bifido factor to lactulose. Document (24) at page 9, lines 7 to 9 states "From this, it is believed that the effect of Neosugar as a propagative factor of Bifidobacterium is superior to that of lactulose" and at page 10, lines 6 to 7 states "the administration of Neosugar results in an increase in the Bifidobacterium". Accordingly, the replacement of lactulose in the feed of document (17) by Neosugar is obvious.

- (c) The claimed subject-matter is also obvious having regard to the combination of document (28) with either document (101) or (102), (N.B. the detailed reasoning in respect of this point is not reported here because it is not necessary for the purposes of the decision).

X. In reply thereto the Respondent argued as follows:

- (a) The main purpose of the claimed process is to increase the weight of the animals and, contrary to the decision quoted, this effect is separable from the effect of prevention or cure of scours. This latter is merely a beneficial side effect. This is demonstrated by Example 4 of the patent in suit which relates to chickens which do not suckle and does not involve a problem concerned with the change from mother's milk to normal feed at which time the flora in the intestine changes. As shown by the quoted example, administration of the saccharide to 4-day old chickens which are not affected by intestinal flora disorder results in a clear weight increase over the control group.

(b) as for inventive step, the results of the experiments in document (17) are specific to feeds containing lactulose and there is no evidence that a link exists between weight increase and the level of Bifidobacterium in the intestine. In respect of document (24), the experimental work involves treatment of healthy human adults as opposed to unhealthy animals and the effect of such treatment would be that the adults would become overweight and therefore unhealthy. Thus the effect is the opposite of that in document (17) and a combination of these documents is not allowable. Furthermore, the flora which is predominant in animals is not that predominant in human beings and this is supported by document (29).

(c) As regards the further combination of document (28) with either document (101) or (102), it is observed that the claimed foodstuff comprises an ordinary feed with an addition of saccharide of which the main component is a fructooligosaccharide and that such a composition is not obvious especially as in both D101 and D102 inulin gives the worst results of all the experimental additives. Accordingly, there is no incentive to use inulin as food additive.

XI. The Appellant requested that the decision under appeal be set aside and that the European patent be revoked.

The Respondent requested that the appeal be dismissed and that the patent be maintained on the basis of the claims as allowed by the Opposition Division (main request) or of the auxiliary request.



## Reasons for the Decision

1. The appeal is admissible.
2. *Allowability of the amendments (Article 123(2) and (3) EPC)*

The Appellant did not challenge the amendments to the claims.

The Board observes that the extent of protection conferred by the amended claims of the main request or by the claim of the auxiliary request is either narrower or unchanged when compared with that conferred by the claims as granted. Thus, the requirements of Article 123(3) EPC are met.

Reference to "an ordinary feed for domestic animals" and to the specific type of sugar were inserted in Claim 1 of the main request, however these features were present in the disclosure as originally filed, (see page 5, line 6 and page 3, fourth paragraph). Corresponding amendments in the description and amendments of a clerical nature were also effected. Thus, in the Board's opinion no objection under Article 123(2) EPC arises.

3. *Main request*
  - 3.1 Article 52(4) EPC
    - 3.1.1 It is established case law that a prophylactic treatment, aimed at maintaining health by preventing ill effects that would otherwise arise, amounts to a method for treatment by therapy as referred to in Article 52(4) EPC, and that therapy is not limited to treatments which

restore health by curing diseases which have already arisen, (see, for example, G 5/83, OJ EPO 1985, 64; T 19/86, OJ EPO 1989, 25).

In considering whether a request for a particular set of claims is allowable under Article 52(4) EPC, the critical question is whether there is any disclosure of a method falling under the prohibition of the said provision. If so, such a method cannot be subject-matter or part of the subject-matter covered by a method claim.

- 3.1.2 In case T 780/89 (loc.cit.) where the Appellants had argued that immunostimulation was used to improve meat production and not as a therapeutic treatment, the Board did not allow a method claim because it considered that, even if more meat was produced because fewer animals became sick or died, the method claimed remained a therapeutic treatment (see point 7 of the Reasons).
- 3.1.3 In the present case it is necessary to decide whether or not the method for breeding domestic animals of Claims 1 and 2 relates to a therapeutic or prophylactic treatment. It is therefore necessary to determine the true nature of the method claimed.

Two effects are observed as a result of the breeding method claimed:

- (a) the remedying of scours and
- (b) weight increase of the animals being bred,

the feed being said at page 1, lines 5 to 7 and lines 33 to 35 to be specifically for purpose (a) and "in particular, in the weaning period for efficiently increasing the weight of the domestic animal" i.e. for purpose (b). Thus the two effects are linked by the

single action of feeding the animals. The quoted passage implies that the first effect (a) is the primary feature whilst (b) is secondary and a result of (a). This is confirmed by lines 39 to 40 on page 1: "As a result of this method, the scours of domestic animals occurring during the weaning period are remedied so as to increase remarkably the weight of the animals". The general tenor of the disclosure is therefore contrary to the Respondent's argument that (b) is the main effect and (a) the secondary one and that they are separable. The intention was to obtain both effects at the same time in animals suffering from scours (treatment by therapy) and to prevent this complaint in those which did not already have it, (treatment by prophylaxis).

The Respondent supported his argument by reference to Example 4 in which chickens were shown to increase in weight as a primary effect and no reference was made to scours or its cure. Further he stated that Claim I was not limited to animals which are susceptible to scours but included animals, e.g. 4-day old chickens for which the primary effect is a weight increase, since this group of animals is unaffected by scouring.

However, the Board observes that the method of Claims 1 and 2 is not limited to any particular group of animals for which only effect (b) is observed, but is meant to be of general applicability to all domestic animals. Moreover, the fact that scouring was neither measured nor observed in Example 4, does not exclude a prophylactic effect of the treatment, via the bifidobacteria, also in young chickens, (see, in this respect, point 4.2.4, below).

In conclusion, the Board is of the opinion that the subject-matter of Claims 1 and 2 does relate to a therapeutic or prophylactic treatment of domestic

animals and thus falls within the prohibition on patentability set out in Article 52(4) EPC.

For these reasons, the main request cannot be allowed.

4. *Auxiliary request*

4.1 Novelty (Article 54 EPC)

The Appellant did not raise a novelty objection against this request and the Board agrees that no single prior art document discloses all the features of the only claim of this request. Accordingly the requirements of Article 54 EPC are met.

4.2 Inventive step

4.2.1 The closest prior art

In the opinion of the Board the closest prior art is represented by document (17) which discloses a feed for domestic animals (e.g. young pigs) comprising a lactulose-containing powder (see, for example, page 11, lines 48 to 77). According to Example 1 (see Tables 8 and 9), lactulose is present in an amount of 1.68% by weight in the feed (cf. the claim at issue). The quoted example shows that feeding of the animals therewith results in an improvement of feed efficiency, of weight increase and of intestinal bacterial flora (see page 16, lines 1 to 18).

The difference between the subject-matter as claimed and that of document (17) lies in the replacement of the said lactulose-containing powder with a saccharide which comprises as a main component a fructooligosaccharide formed by bonding 1 to 4 fructose molecule to sucrose.

#### 4.2.2 The technical problem

In the light of document (17) the problem to be solved resides in the provision of an alternative feed for domestic animals, especially young animals, which is at least as effective, or even more effective in terms of the improvement in weight increase and intestinal bacterial flora than the known feed of document (17).

#### 4.2.3 The solution proposed

The solution to the stated problem proposed by the patent in suit is the feed according to the sole claim which comprises a fructooligosaccharide.

The patent specification shows that by administering said feed to domestic animals such as pigs the occurrence of scours and loose passage is reduced and the weight and the breeding efficiency are increased (see page 3, lines 27 to 30 and Examples 1 to 3). An improvement of feed conversion ratio and of body weight is also achieved in young chickens (see Example 4).

#### 4.2.4 Assessment of inventive step

The relevant question for the assessment of inventive step is whether the skilled person would have replaced in a straightforward manner the lactulose-containing powder in the prior art feed according to document (17) with a saccharide comprising as a main component a fructooligosaccharide as specified in the present claim.

According to the Appellant, the said replacement was obvious having regard to document (24) which teaches that Neosugar (a GF<sub>2-5</sub> fructooligosaccharide) is a superior bifido factor to lactulose.

According to the Respondent, the said replacement was not obvious because:

- (i) document (17) did not show a correlation between changes in the intestinal flora and weight increase;
- (ii) document (24) related to the administration of Neosugar to healthy human adults, **not** to domestic animals. The intestinal flora of human adults differed from that of domestic animals. Bifidobacteria were not the main component of the latter as is clear, for example, from document (29);
- (iii) document (24) did not report any effect of Neosugar on weight increase.

Thus, in the Respondent's opinion, the skilled person would not have combined the teachings of documents (17) and (24).

The Board, in analysing the background knowledge at the relevant priority date, observes that the available prior art showed that:

- (i) notwithstanding the differences in the composition of the intestinal bacterial flora, it was known that Bifidobacteria was one of the kinds of bacteria that constituted the intestinal flora of both humans and mammals, including domestic animals (see for example document (10), page 2, second paragraph and document (17), page 1, lines 21 to 31);
- (ii) the general state of health of animals and in particular their intestinal flora were known to be positively affected by the administration of Bifidobacteria preparations or of the so-called

bifidus factors, such as lactulose or Neosugar, as a consequence of the predominance of Bifidobacteria over other noxious bacteria such as Enterobacteria, (in this respect, see document (7), page 41 and document (17), page 1, lines 21 to 31). Such administration could, for example, treat or prevent the occurrence of diarrhoea or scouring in animals (see document (7)).

In the light of the above knowledge, the person skilled in the art starting from the feed according to document (17), in order to provide an alternative thereto with at least the same, or even improved effectiveness in terms of weight increase and intestinal bacterial flora composition would have readily considered the teaching of prior art documents relative to Bifidobacteria preparations or bifido factors. Thus, the skilled person would have considered the teaching of prior art documents, such as document (24), which were dealing with bifido factors and their effects on the general state of health and especially on the intestinal bacterial flora. From document (24), but also from document (5), the skilled person would have learned that fructooligosaccharides such as Neosugar, could be safely administered to humans and animals and that they had a positive effect on their state of health, in particular on the intestinal flora. The conclusion in document (24) that "Neosugar as a propagative factor of Bifidobacterium is superior to that of Lactulose" would have directly suggested to the skilled person to replace lactulose in the feed according to document (17) by a fructooligosaccharide such as Neosugar. Thereby the skilled person would have obtained in a straightforward manner the feed according to the present claim. As lactulose in the feed according to document (17) had proved to be effective for an improvement of weight

increase and intestinal bacterial flora, the skilled person would have expected the same effect to occur upon its replacement with a fructooligosaccharide such as Neosugar, especially in view of the fact that both substances exerted their effect via the stimulation of the bifidobacteria. Moreover, as bifidobacteria were known to alleviate and prevent symptoms of scouring in animals (see item (ii) above), the skilled person would have expected the same effect to occur with the alternative feed composition containing a fructooligosaccharide such as Neosugar.

For these reasons, the Board considers that the subject-matter of the auxiliary request lacks an inventive step. Consequently, the said auxiliary request is not allowable.

- 4.2.5 In view of the above finding the arguments submitted by the Appellant concerning D101 and D102 combined separately with document (28) need not be discussed.

**Order**

**For these reasons it is decided that:**

1. The decision under appeal is set aside.
2. The patent is revoked.

The Registrar:

The Chairman:

L. P. McGarry

L. Galligani