

UNITED STATES PATENT AND TRADEMARK OFFICE

**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Ex parte ELLIOT ENTIS and KURT KLIMPEL

Appeal 2007-0865
Application 10/079,837
Technology Center 1600

Decided: March 4, 2008

Before TONI R. SCHEINER, ERIC GRIMES, and JEFFREY N. FREDMAN, *Administrative Patent Judges*.

FREDMAN, *Administrative Patent Judge*.

DECISION ON APPEAL

This is an appeal under 35 U.S.C. § 134 involving claims to a method for increasing pathogen resistance in shrimp (and related animals), which the Examiner has rejected on grounds of anticipation and obviousness. We have jurisdiction under 35 U.S.C. § 6(b). We reverse and enter a new ground of rejection.

BACKGROUND

According to the Specification, “shrimp are typically farmed at a high population density in industrial farm operations, which results in stocks that are exceptionally susceptible to disease and infestation” (Spec. 1). The Specification notes that “aquaculture shrimp are routinely dosed with antibiotics and other agents to prevent or reduce infection. However, these treatments have only a limited effect, *e.g.*, antibiotics do not protect against viral infection” (Spec. 1).

Appellants teach

a method of treating . . . [shrimp] to increase resistance to bacterial and viral pathogens such as white spot virus infection. The method comprises administering growth hormone to the animals in an amount that is effective to reduce the incidence of infection by bacterial and viral pathogens by at least 25% compared to animals that are not exposed to growth hormone. The amount of growth hormone administered is not sufficient to promote growth.

(Spec. 2).

STATEMENT OF THE CASE

The Claims

Claims 1-34 are on appeal. Claims 2-34 have not been argued separately and therefore stand or fall with the representative claims. 37 C.F.R. § 41.37(c)(1)(vii). We will focus on claim 1, which is representative and reads as follows:

1. A method of increasing resistance to viral and bacterial pathogens in an animal of the suborder Natantia, the method comprising:

administering to the animal an amount of growth hormone effective to reduce the incidence of infection by bacterial and viral pathogens by at least 25% of the amount in the absence of growth hormone;

wherein the amount of growth hormone is not sufficient to promote growth of the animal by more than 10% relative to an untreated animal as measured in percentage weight gain during the entire period the animals are farmed.

The Examiner has rejected claims 1-4, 6, 8, 11-16, 20, 21, 25, 26, and 30-33 under 35 U.S.C. § 102(b) and claims 5, 7, 9-10, 17-19, 22-24, 27-29, and 34 under 35 U.S.C. § 103(a) based on:

Pittet et al. US 5,579,723 Dec. 3, 1996

Issue

With respect to anticipation, the Examiner's position is that "Pittet et al. teaches a method to attract crustacean class such as *P. vannamei* by feeding the animals a composition comprising fish growth hormone and other actives" (Ans. 3).

The Examiner argues that due to the inherent "nature of the instant invention, the claims read on the mere administration of growth hormone to the herein claimed aquatic animals in the herein claimed dosage and regimen" (Ans. 4).

For obviousness, the Examiner argues that it "would have been obvious to one of ordinary skill in the art at the time of invention to employ the herein claimed dosage and regimen for feeding the shrimps" (Ans. 5).

Appellants respond that Pittet does "not expressly provide all limitations of the pending claims, e.g., the use of a growth hormone in an amount that can enhance an animal's resistance to infections but does not

lead to a significant increase in growth" (App. Br. 11). Appellants further contend "that, at best, there exists only a possibility that the amount of growth hormone used by Pittet *et al.* *might* fit the limitation of the pending claims of this application, *i.e.*, insufficient to promote significant growth but sufficient to render heightened resistance to infection" (App. Br. 14). Appellants also argue "the implication is that Pittet *et al.* intended to promote growth in animals being fed with their food composition, which may include growth hormones" (App. Br. 14). Regarding the obviousness issue, the Appellants argue a failure "to point out where in the Pittet reference can one find any suggestion to choose an amount of growth hormone, which, when administered to a Natantia animal, can effectively boost the animal's ability to resist viral or bacterial infection without significantly promoting the growth rate of the animal" (App. Br. 16).

In view of these conflicting positions, we frame the issue before us as follows:

Would it have been inherent or obvious based upon Pittet to administer growth hormone to shrimp at concentrations sufficient to reduce infections in the shrimp without resulting in a ten percent or greater increase in shrimp growth?

Findings of Fact

1. Pittet discloses two different types of compositions, feeding compositions to feed the shrimp and attractant compositions to attract the shrimp (*see* Pittet, col. 8, ll. 5-15, col. 11, 1-3 and col. 15, ll. 3-6).

2. Pittet discloses addition of fish growth hormones to shrimp feeding compositions (*see* Pittet, col. 8, ll. 7-15, col. 11, ll. 1-3, col. 13).

3. Pittet teaches addition of “ASIE substances” to shrimp feeding compositions in exciting or attracting or inciting or stimulating amounts (Pittet, col. 15, ll. 3-6).

4. Pittet teaches a list of ASIE substances which does *not* include growth hormone (Pittet, col. 4-6).

Discussion

We agree with Appellants that the Examiner has failed to provide a *prima facie* case of inherency. As the court noted,

[i]nherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing *may* result from a given set of circumstances is not sufficient. If, however, the disclosure is sufficient to show that the natural result flowing from the operation as taught would result in the performance of the questioned function, it seems to be well settled that the disclosure should be regarded as sufficient.

MEHL/Biophile Intern. Corp. v. Milgraum, 192 F.3d 1362, 1365 (Fed. Cir. 1999). In the current case, the Examiner has not provided any evidence or persuasive argument to support the position that Pittet’s addition of growth factor to feeding compositions would necessarily result in the growth of shrimp by less than ten percent by weight.

Pittet does not specify that any particular amount of growth hormone is added to the feeding composition. Pittet also does not specify how much growth hormone is administered to, or ingested by, the shrimp. Moreover, there is no indication of levels of weight gain in Pittet.

We further note, in the art previously cited by the Examiner in this application, the addition of growth factors resulted in much greater than ten

percent increases in the weight of shrimp. In the original office action, the Examiner cited Sonnenschein for the addition of bovine growth hormone to shrimp (Nonfinal Rejection 9/8/03 3-4). Sonnenschein taught that addition of the bovine growth hormone to shrimp resulted in a 38% increase in weight and an 11% increase in length (Sonnenschein 14:1-8). Consequently, the evidence of record demonstrates that addition of growth hormone will not necessarily result in growth of less than ten percent.

We also reject the Examiner's attempt to rely upon Pittet's disclosure of short term exposure to attractant compositions as inherently anticipating the claims (Ans. 6). Pittet only teaches putting growth hormone into the feeding composition (FF 1-2). Pittet never teaches putting growth hormone into the attractant compositions and growth hormone is not one of the "ASIE" attractant compositions (FF 3-4). Therefore, the Examiner was incorrect in stating that the growth hormone was used as an attractant when in actuality, growth hormone was not so used. Consequently, we do not think that any reasonable fact finder could determine that Pittet's attractant compositions contained concentrations of growth hormone which would inherently be sufficient to reduce the rate of infection by 25% while stimulating growth by less than 10%. We reverse the 35 U.S.C. § 102(b) rejection over Pittet.

We are also not persuaded by the Examiner's arguments regarding Pittet as an obviousness reference. "Rejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." *See In re Kahn*, 441 F.3d 977, 988 (Fed.

Cir. 2006). There is no reasoning which supports the conclusion of obviousness of the claims over the Pittet reference. The simple teaching by Pittet that growth hormone can be used in shrimp feeding compositions does not render the specific amount necessary to reduce infection by twenty five percent while limiting the increase in growth to less than ten percent *prima facie* obvious (*see* FF 1-4). In the absence of any facts or reasoning to support the conclusion of obviousness, we reverse the 35 U.S.C § 103(a) rejection over Pittet.

New grounds of rejection

Under the provisions of 37 C.F.R. § 41.50(b), we enter the following new ground of rejection.

Claims 1-3, 5, 6, and 12-13 are rejected under 35 U.S.C. § 102(b) as anticipated by Song et al, *Effects of growth hormone treatment on the growth of Penaeus chinensis postlarval*, 41 Studia Marina Sinica 108 (1999).

Song teaches a method of claim 1 in which growth hormone is administered to an animal of the suborder Natantia (see Song translation 4, “The experimental shrimp are soaked once in the growth hormone for one hour”). Song teaches that addition of pig growth hormone results in an increase from 8.54 mm in the control to 8.77 mm in the pig growth hormone treated sample after 7 days (*see* Song translation 8, table 1). The increase from 8.54 mm to 8.77 mm represents a 2.7% increase in length, which is less than the 10% maximum of claim 1. Song further teaches that addition of fish growth hormone results in an increase from 15.93 mm to 16.73 mm

after 24 days (*see* Song translation 8, table 1). The increase from 15.93 mm to 16.73 mm represents a 5.0% increase in length, which is less than the 10% maximum of claim 1.

With regard to the limitation of “an amount effective to reduce the incidence of infection by bacterial and viral pathogens by at least 25%”, this represents an inherent property of the addition of growth hormone to the shrimp. In the current case, Song teaches in the Results section that “the survival rate of the shrimp larvae is also greater for those that undergo growth hormone treatment” (*see* Song translation 4). Additionally, Song teaches that growth hormone “also improves effective immunity” (*see* Song translation 3). Consequently, Song’s evidence demonstrates the presence of the inherent result obtained by Appellant. *See Perricone v. Medicis Pharmaceutical Corp.*, 432 F.3d 1368, 1378 (Fed. Cir. 2005)(“the anticipation doctrine examines the natural and inherent results in that method without regard to the full recognition of those benefits or characteristics within the art field at the time of the prior art disclosure”).

With regard to claim 2, Song teaches immersion of the animal in a solution comprising water and growth hormone (*see* Song translation 4).

With regard to claim 3, Song teaches the use of shrimp (*see* Song translation 4).

With regard to claim 5, Song teaches that the shrimp were at stage P₇ (*see* Song translation 4).

With regard to claim 6, Song teaches growth in aquaculture (*see* Song translation 4).

With regard to claim 12, Song teaches the use of salmon growth hormone (*see* Song translation 4).

With regard to claim 13, the claim does not require that the shrimp be infected, and consequently Song remains anticipatory.

CONCLUSION

This decision contains new grounds of rejection pursuant to 37 C.F.R. § 41.50(b) (effective September 13, 2004, 69 Fed. Reg. 49960 (August 12, 2004), 1286 Off. Gaz. Pat. Office 21 (September 7, 2004)). 37 C.F.R. § 41.50(b) provides "[a] new ground of rejection pursuant to this paragraph shall not be considered final for judicial review."

37 C.F.R. § 41.50(b) also provides that the Appellants, *WITHIN TWO MONTHS FROM THE DATE OF THE DECISION*, must exercise one of the following two options with respect to the new ground of rejection to avoid termination of the appeal as to the rejected claims:

(1) *Reopen prosecution.* Submit an appropriate amendment of the claims so rejected or new evidence relating to the claims so rejected, or both, and have the matter reconsidered by the Examiner, in which event the proceeding will be remanded to the Examiner. . . .

(2) *Request rehearing.* Request that the proceeding be reheard under § 41.52 by the Board upon the same record. . . .

REVERSED, 37 C.F.R. § 41.50(b)

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