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**Datasheet for the decision  
of 24 June 2021**

**Case Number:** T 1264/19 - 3.3.04

**Application Number:** 15702213.8

**Publication Number:** 3099165

**IPC:** A01N3/02, A01H5/02

**Language of the proceedings:** EN

**Title of invention:**  
Bouquet of cut flowers

**Patent Proprietor:**  
Knud Jepsen A/S

**Opponent:**  
Slijkerman Breeding B.V.

**Headword:**  
Kalanchoe cut flowers/KNUD JEPSEN

**Relevant legal provisions:**  
EPC Art. 56, 83, 87, 100(a), 111  
RPBA 2020 Art. 11

**Keyword:**

Priority - identity of invention (no)

Inventive step - main request (no)

Sufficiency of disclosure - auxiliary request 1 (yes)

Remittal - (yes)

**Decisions cited:**

G 0002/98, T 0344/89, T 0377/14

**Catchword:**

-



**Beschwerdekammern**

**Boards of Appeal**

**Chambres de recours**

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Case Number: T 1264/19 - 3.3.04

**D E C I S I O N**  
**of Technical Board of Appeal 3.3.04**  
**of 24 June 2021**

**Appellant:** Knud Jepsen A/S  
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**Decision under appeal:** **Decision of the Opposition Division of the  
European Patent Office posted on 28 February  
2019 revoking European patent No. 3099165  
pursuant to Article 101(3)(b) EPC.**

**Composition of the Board:**

**Chair** B. Claes  
**Members:** B. Rutz  
R. Romandini

## Summary of Facts and Submissions

I. An appeal was lodged by the patent proprietor (appellant) against the decision of the opposition division revoking European patent No. 3 099 165 (hereinafter "the patent"), which claims priority from Dutch patent application NL 2012150. The patent is entitled "*Bouquet of cut flowers*".

Claim 1 of the patent as granted reads:

"1. Bouquet of cut flowers, comprising:  
- one or more cut flowers belonging to the genus *Kalanchoe* having a stem length of at least 35 cm, capable of conferring elongated freshness to an aqueous nutrient medium for cut flowers by contact of the cut surface of the stems of the said cut flowers with the said aqueous nutrient medium,  
- one or more cut flowers belonging to a genus different from *Kalanchoe* having prolonged longevity by contacting the said one or more cut flowers, with the cut surface of the stem thereof, with the aqueous nutrient medium."

II. The opposition proceedings were based on the grounds in Article 100(a) EPC, in relation to novelty (Article 54 EPC) and inventive step (Article 56 EPC), and in Article 100(b) and 100(c) EPC.

III. In its decision the opposition division held, *inter alia*, that the subject-matter of the claims of the main request (claims as granted) extended beyond the content of the application as filed (Article 100(c) EPC).

With regard to auxiliary request 9, the opposition division held that the invention to which claim 1 related was not sufficiently disclosed in the patent (Article 83 EPC).

- IV. With the statement of grounds of appeal, the appellant re-submitted the main request (claims as granted) and filed sets of claims of auxiliary requests 1 to 27 and one document. They further argued that the subject-matter of the claims of all requests did not extend beyond the content of the application as filed. The subject-matter was novel and it involved an inventive step.

Claim 1 of auxiliary request 21 (identical to auxiliary request 9 considered in the decision under appeal) reads:

"1. Use of one or more cut flowers belonging to the genus *Kalanchoe* having a stem length of at least 35 cm, for prolonging the longevity of one or more cut flowers belonging to a genus different from *Kalanchoe*."

- V. The opponent (respondent) replied to the appeal.
- VI. The board summoned the parties to oral proceedings, as requested, and informed them of its preliminary opinion in a communication pursuant to Article 15(1) RPBA.
- VII. In reply to the board's communication the appellant filed *inter alia* further documents, including an Annex with "Additional comments on D31". The respondent submitted with their response, *inter alia*, experimental data (see Annex).

VIII. During oral proceedings the appellant withdrew auxiliary requests 1 to 20 and renumbered auxiliary request 21 as new auxiliary request 1. At the end of the oral proceedings, the chair announced the board's decision.

IX. The following documents are cited in the present decision:

D3 Archived page of Website Queen® that was on the Internet on 16 May 2014:  
<https://web.archive.org/web/20140516110437/http://www.greenex.com:80/flowering-plants/kalanchoe-queen/queen-flowers/>

D28 Priority document NL 2012150

D29 Affidavit K. L. Nielsen of 1 November 2018

D30 Opinion Prof. C.-O. Ottosen of 6 June 2019

D31 Affidavit K. L. Nielsen of 20 May 2021

D32 Affidavit K. L. Nielsen of 23 May 2021

D33 Leszczynska-Borys, H. et al., "*Bryophyllum pinatum* Kurz. - A NEW CUT FLOWER SPECIES. I. AESTHETIC VALUE", *Revista Chapingo Serie Horticultura* 8(1), 2002, 119-123.

D34 Annex: experimental data provided by the respondent with the letter dated 21 May 2021 (see section VII)

X. The appellant's arguments are summarised as follows:

*Main request - claim 1*

*Priority (Article 87 EPC)*

In the priority document a stem length of 35 cm was disclosed on page 4, lines 12 to 15. Sufficient stem strength in this context referred only to very long *Kalanchoe* of more than 60 cm, i.e. the category "or even more". It was known in the art that *Kalanchoe* had an intrinsically strong stem, which rendered these plants suitable as cut flowers and provided them with sufficient stem strength up to 60 cm. Only mere hypothetical varieties that grew to be longer than 60 cm could possibly suffer from insufficient stem strength. However, it was known that *Kalanchoe* in the wild could grow to lengths of up to 2 m or even more, standing without support, i.e. having sufficient stem strength (see document D33, table 1, and page 120, right column, last paragraph). *Kalanchoe* of up to 60 cm were always strong enough, i.e. had sufficient stem strength, as also explained in document D32.

Page 4, lines 12 to 15, of the priority document therefore disclosed suitable varieties with a stem length of at least 20 cm, of at least 35 cm, of at least 45 cm and of up to 60 cm. It also described those of a length of even more than 60 cm, but with sufficient stem strength. The feature of stem strength was an intrinsic feature of a cut flower which was only required for aesthetic reasons. It was not necessary for solving the technical problem of longevity, but

only for cut flowers to stand upright. Therefore, it did not contribute to the technical effect and was redundant. The patent was thus entitled to the claimed priority, and documents D1 to D3 did not form part of the state of the art.

*Inventive step (Article 100(a) EPC and Article 56 EPC)*

The opposition division had misinterpreted the experiments of document D29 when finding that "*at least for Kalanchoe flowers which are not hybrids it has not been clearly and unambiguously proven that when Kalanchoe flowers are present in a bouquet together with flowers of a genus different from Kalanchoe, the Kalanchoe flowers confer freshness to the aqueous medium and therefore, no longevity is provided to the other flowers in the bouquet due to the fouling of the aqueous medium*".

On the contrary, document D29 disclosed that, for the rose, a better ornamental value was obtained for all combinations with *Kalanchoe*, including non-hybrid flowers. Ornamental value was an important and valid parameter to assess longevity (see document D30). For the fouling of the vase water, measured as optical density, interspecific hybrids of *Kalanchoe* showed the best effect, but normal *Kalanchoe* were also effective when the values of the single flowers were added for comparison (see document D30).

If the priority was considered not to be valid, document D3 would represent the closest prior art. It disclosed *Kalanchoe* varieties identical to the ones with the same names disclosed in the patent (see list on pages 6 to 9 and Table 1 on pages 9 to 10). However, improved longevity and an antiseptic effect were only



disclosed for *Kalanchoe* when present in a vase alone, but not when put in water with other flowers. The disclosure of "*mixed bouquets*" in document D3 could also be understood to relate to different *Kalanchoe* varieties in a bouquet. While the antiseptic effect of *Kalanchoe* might also arise with shorter flowers, an effect on longevity had only been tested and observed for flowers longer than 35 cm. As document D3 did not suggest using *Kalanchoe* of at least 35 cm stem length in mixed bouquets with other flowers, the claimed invention was not obvious to the skilled person.

*Auxiliary request 1 - claim 1*

*Sufficiency of disclosure (Article 83 EPC)*

The effect of "prolonging longevity of flowers which are not of the genus *Kalanchoe*" had also been shown for non-hybrid *Kalanchoe* in document D29. The effect on various flowers which were not of the genus *Kalanchoe* had been disclosed in the patent (see Table 2) and shown in document D31.

The experiments submitted by the respondent in reply to the board's communication (see section VII, document D34) represented only two isolated cases which were not sufficient to cast doubt on the large number of tests carried out by the appellant. The results were not statistically meaningful since biological experiments always showed some variation and, furthermore, flowers (in particular roses) were sensitive and might have been damaged before starting the experiment.

The respondent had not presented serious doubts, substantiated by verifiable facts, regarding the skilled person's ability to put the claimed invention

into practice. The claimed invention was thus sufficiently disclosed in the patent.

XI. The respondent's arguments are summarised as follows:

*Main request - claim 1*

*Priority (Article 87 EPC)*

The issue of whether the feature "*stem strength*" was an intrinsic feature of a cut flower was not relevant for the question of priority.

In the priority document the stem length of 35 cm was only disclosed in combination with the term "*sufficient stem strength*" (see page 4, lines 12 to 15). The term "*sufficient*" had a technical meaning (although it was not clear what this meaning was exactly) and could not be intrinsic. The reference to stem strength in relation to stem length was not present in the claim. What was claimed was thus a different invention from that disclosed in the priority document. Therefore, the priority was not validly claimed.

Document D3 was thus comprised in the state of the art.

*Inventive step (Article 100(a) EPC and Article 56 EPC)*

Document D29 concluded that only cut flowers of interspecific hybrids of *Kalanchoe* had a significant effect on the longevity of other flowers and fouling of the vase water (see Conclusion on page 7: "*These effects were however not or significantly less observed for normal (i.e. non-interspecific Kalanchoe (again both single and double type). In contrast, normal Kalanchoe contributed to the fouling of the vase water when combined with a flower of another species*"). The

effect relied on by the appellant was thus not achieved over the whole breadth of the claim.

Document D3 represented the closest prior art and referred to an antiseptic effect of *Kalanchoe* which "*keeps the water clean*". The interrelation of water freshness and longevity of cut flowers had been confirmed by the appellant in the statement of grounds of appeal (see page 4, first paragraph: "*fouling of the water after 7 days was a good indication for [fading and wilting]*") and in document D29 (see page 7, penultimate paragraph: "*a significant effect on longevity of other flowers when both are kept in the same liquid medium, and to the freshness of the said medium, effects that appear to be interrelated*"). It had also been confirmed in document D30 (see page 3, last paragraph: "*optical density is a direct measurement for elongation of freshness of the medium, but it is also a direct indicator for potential longevity of cut flowers kept therein*"). As the freshness of the water was commonly known to contribute to the longevity of cut flowers, the use of *Kalanchoe* to obtain this effect was thus obvious to the skilled person from the disclosure in document D3.

Moreover, the varieties disclosed in document D3 were the same as those referred to in the patent. They thus inherently had the same effect as those varieties. The length of at least 35 cm was implicit because document D3 reported an "*antiseptic effect*". It was obvious to combine the disclosed *Kalanchoe* with other flowers in a "*mixed bouquet*" because there was no reason not to. The provision of an alternative bouquet to the mixed bouquets disclosed in document D3 was thus obvious to the skilled person.

*Auxiliary request 1 - claim 1*

*Sufficiency of disclosure (Article 83 EPC)*

There was no information available as to the number of *Kalanchoe* flowers necessary to keep the vase water of a large bouquet of cut flowers fresh and prolong the longevity of the non-*Kalanchoe* flowers. It was an undue burden for the skilled person to test for each and every possible bouquet how many *Kalanchoe* flowers needed to be included in order to obtain the effect on water freshness and flower longevity as referred to in the claim. For this reason alone, the invention to which claim 1 related was not sufficiently disclosed in the patent.

The bouquet as claimed encompassed cut flowers of a vast variety of flowers since the claim only required that the "other" flower should not be a *Kalanchoe*. In the patent, *Rosa*, *Dianthus*, *Chrysanthemum* and *Gerbera* were tested for a number of parameters in combination with *Kalanchoe* (see Table 2). Some effect on fading was observed but only in *Rosa* and *Dianthus*, not in *Gerbera* and *Chrysanthemum*. Although the ornamental value appeared better for all flowers combined with *Kalanchoe*, it could not be derived from the patent how ornamental value should be assessed. The same applied to fading and wilting, for which a definition of assessment criteria lacked. It was thus not possible to derive from the patent how to assess these parameters. However, wilting seemed to be the parameter that was most easily assessed as it was a clearly apparent condition. From Table 2 it followed that the combination with *Kalanchoe* only had an effect on wilting if the other flower was a rose. No effect was observed for the other species.

The experiments disclosed in document D29 were only performed with one type of non-*Kalanchoe* flower, namely the rose, and, even here, with only one type of rose. Although the document disclosed that similar experiments had been performed with *Chrysanthemum*, *Dianthus*, *Gerbera*, etc., results thereof were not disclosed.

The effect as referred to in the claim could not be reproduced in experiments with interspecific hybrid *Kalanchoe* and rose (see D34). In a further experiment with *Dianthus* and an interspecific, double flower type *Kalanchoe*, the effect on longevity could not be reproduced (see D34) either. In tests submitted during the opposition proceedings it was found that both roses and *Chrysanthemum* sometimes wilted quicker with *Kalanchoe* than without it.

The effect of "*prolonging the longevity of one or more cut flowers belonging to a genus different from Kalanchoe*" was thus not achieved over the whole breadth of the claim and the invention was not sufficiently disclosed by the patent.

- XII. The appellant requested that the decision under appeal be set aside and the opposition be rejected, or alternatively, that the decision under appeal be set aside and the case be remitted to the opposition division to evaluate novelty and inventive step in relation to the claimed subject-matter of auxiliary request 1 (originally filed as auxiliary request 21 with the statement setting out the grounds of appeal).

The respondent requested that the appeal be dismissed, or alternatively, that for the case that the invention

to which claim 1 of new auxiliary request 1 related was to be found sufficiently disclosed, to remit the case to the opposition division for further prosecution.

## **Reasons for the Decision**

*Main request - claim 1*

*Priority (Article 87 EPC)*

1. The feature "stem length of 35 cm" is disclosed in the priority document on page 4, lines 12 to 15:  
*"Especially varieties that have a mid-size or large stem, i.e. having a stem length of at least 20 cm, preferably at least 35 cm, more preferably at least 45 cm and up to 60 cm or even more, with sufficient stem strength are particularly suitable as cut flowers ..."*.
2. The board cannot agree with the appellant that the feature "sufficient stem strength" applied only to flowers of "60 cm or even more", because a stem length of "at least 35 cm" has no upper limit and thus also includes flowers of a stem length of more than 60 cm.
3. The appellant further argued that stem strength was an intrinsic feature of a cut flower which was only required for the flowers to stand upright, i.e. for aesthetic reasons. This feature, therefore, was non-technical in relation to the invention, and did not solve the technical problem of longevity. Hence, it should not be considered when assessing the validity of the claimed priority.
4. The board does not agree with this reasoning either. As provided in Article 87(1)(b) EPC, the priority can only be validly claimed if the subsequent application concerns the same subject-matter as the previous

application. As clarified in decision G 2/98 of the Enlarged Board of Appeal (OJ EPO 2001, 413), this requirement is met only where the subsequent application concerns "*subject-matter which the person skilled in the art can derive directly and unambiguously, using common general knowledge, from the previous application as a whole*" (see point 9 of the Reasons).

5. The paragraph referred to in the priority document connects a number of different stem lengths with the feature of stem strength. Stem strength is not a pure aesthetic feature. Instead, it is a structural feature of the flower stem that is required to keep it upright in nature or in a vase; hence, in the board's view, it represents a technical feature.
6. The issue of whether a technical feature contributes to achieving the technical effect of the invention is not relevant for assessing whether or not priority is validly claimed. Here, the relevant criterion is that the "*subsequent application is filed in respect of the same subject-matter*": such a criterion does not require considerations which belong to the realm of inventive step. The board concludes that the feature "at least 35 cm" is only disclosed in combination with the feature "*sufficient stem strength*" in the priority document.
7. The appellant has not provided evidence that all *Kalanchoe* of at least 35 cm stem length have sufficient stem strength so that the latter could be considered "intrinsic" to the stem length. Document D33, cited by the appellant, reports *Kalanchoe* with very long stem length, but does not disclose that each and every *Kalanchoe* with stem length of at least 35 cm has

sufficient stem strength. In fact, the feature "at least 35 cm" is only disclosed in combination with the feature "*sufficient stem strength*" in the priority document (see above). Furthermore, the two features are inextricably linked as the skilled person would consider that stem length has an influence on the stem strength. The deletion of the feature "*sufficient stem strength*" results in subject-matter which is not directly and unambiguously disclosed in the previous application. Consequently, claim 1 cannot benefit from the priority claimed by the patent. Accordingly, document D3 forms part of the state of the art pursuant to Article 54(2) EPC.

*Claim construction*

8. Claim 1 (see section I) is a product claim directed to a "bouquet of flowers". The bouquet comprises
  - one or more cut flowers of the genus *Kalanchoe* having a stem length of at least 35 cm, and
  - one or more cut flowers belonging to a genus different from *Kalanchoe*.
  
9. The functional limitation for the *Kalanchoe* cut flowers in the claim to the effect that they are "capable of conferring elongated freshness to an aqueous nutrient medium for cut flowers by contact of the cut surface of the stems of the said cut flowers with the said aqueous nutrient medium" is a feature of at least the *Kalanchoe* interspecific hybrids referred to in the patent (see paragraph [0031]: "*only a few or even a single cut flower of the genus Kalanchoe is capable to confer prolonged longevity to a plurality of other cut flowers*" and Example 3, paragraph [0045]).



10. The functional limitation for the non-*Kalanchoe* flowers in the bouquet of the claim to the effect of these flowers "having prolonged longevity by contacting the said one or more cut flowers, with the cut surface of the stem thereof, with the aqueous nutrient medium" is a feature of all non-*Kalanchoe* flowers when brought into contact with the aqueous nutrient medium containing at least the *Kalanchoe* interspecific hybrids disclosed in the patent (see paragraph [0029]: "[s]aid flowers can be any cut flowers").

*Inventive step (Article 100(a) EPC and Article 56 EPC)*

*Closest prior art*

11. Document D3, which the board considers to represent the closest prior art, is a screenshot from a website archived on 16 May 2014 by the Internet Archive WayBackMachine. It discloses cut *Kalanchoe* flowers of "selected ethylene-resistant varieties" having an "antiseptic effect [which] keeps the water clean". The varieties offered for sale are "Adorable Pink", "Amazing Pink", "Blossom Pink", "Lovable Pink", "Spring Yellow" and "Warm Yellow".
12. It is undisputed that the patent in paragraph [0026] refers to identical varieties "[i]n particular, *Kalanchoe* interspecific hybrids ... 'Amazing Pink Meadow' (CVPO 2013/1549), 'Adorable Pink Meadow' (CVPO 2013/2836), 'Blossom Pink Meadow' ... 'Warm Yellow Meadow' (CVPO 2013/2835) ... 'Loveable Pink Meadow' ... [which] provide for cut flowers having a stem length of at least 35 cm, 45 cm, 50 cm or more" to those referred to in document D3.

13. Document D3 states that "*the elegant flowering stems can be arranged in colourful bouquets*" and proposes to "[u]se them also in mixed bouquets".

*Formulation of the objective technical problem*

14. Having regard to the claim construction above (see points 8. to 10.) the claimed subject-matter differs from the mixed bouquets of cut flowers disclosed in document D3 in that the stem length of the *Kalanchoe* cut flowers is at least 35 cm and in that cut flowers which are not of the genus *Kalanchoe* are present in the mixed bouquet.
15. The appellant argued that the technical effect of "conferring elongated freshness to the aqueous nutrient medium" was more pronounced in *Kalanchoe* with a stem length of 35 cm or more (see document D32). The particular stem length was thus of relevance to the assessment of inventive step of the claimed subject-matter.
16. The patent discloses in paragraph [0005] that: "*the invention relates to a bouquet of cut flowers capable of conferring elongated freshness to an aqueous nutrient medium for cut flowers by contact of the cut surface of the stems of the said cut flowers with the said aqueous nutrient medium, said bouquet comprising one or more cut flowers belonging to the genus Kalanchoe having a stem length of at least 35 cm*". From this passage it is not apparent whether the stem length of 35 cm was required to achieve a more pronounced effect of "conferring elongated freshness".
17. In paragraph [0016] the patent further discloses that "[l]arger *Kalanchoes* do not only contribute to the

*attractive appearance of the bouquet, but it has also been found that the freshness of the liquid medium is elongated even more if the bouquet comprises larger Kalanchoes. Therefore, in a preferred embodiment the cut flowers belonging to the genus Kalanchoe in the bouquet have a stem length of at least 45 cm, more preferably of at least 50 cm, and may even have a stem length of up to 60 cm or more."* From this passage it can only be taken that larger *Kalanchoes* elongated the freshness of the liquid medium for even longer. It cannot be seen as disclosing a specific effect occurring for "*Kalanchoe* having a stem length of at least 35 cm".

18. Also, in Table 1, all *Kalanchoe* cut flowers tested except one (see Table 1) are longer than 35 cm. The one flower of 32 cm length ("2009-0938") has a value of "1" for "Fading", "Wilting" and "Ornamental value", i.e. it performed at least as well as the longer flowers. In Example 3 and Table 2 displaying the effect on freshness of the nutrient medium and longevity of other cut flowers, the stem length of the *Kalanchoe* is not provided. From the patent it is therefore not apparent that 35 cm would be associated with a particular technical effect.
  
19. The only other evidence with regard to a specific effect of a stem length of at least 35 cm of a *Kalanchoe* was submitted by the appellant in the form of document D32. The document, which is not comprised in the state of the art, discloses that: "*having a stem length of up to 15 cm, no such [antifouling] effect was observed. For cut Kalanchoes with a stem of 35 cm we surprisingly observed such effect. This made us to check such effect on different lengths, and it was observed that below 35 cm, the effect was less*

*pronounced, whereas above said length the effect even increased".*

20. However, while the objective technical problem does not have to be explicitly disclosed in the application as filed, it must at least be foreshadowed therein (see also decision T 377/14, point 2.1.5, referring to decision T 344/89, point 5.3.1). Since the patent itself does not disclose a particular effect for a stem length of at least 35 cm, it is not possible to rely on the latter to formulate the objective technical problem. Document D32 cannot influence this finding, not only because it is a post-published document, but also because the effect in question was not disclosed in the application as filed.
21. In view of the above the board concludes that the combination of flowers of the genus *Kalanchoe* with a particular stem length of at least 35 cm with flowers which are not of the genus *Kalanchoe* in a bouquet merely has the technical effect that a mixed bouquet with flowers of different genera is obtained.
22. Accordingly, the objective technical problem can be formulated as the provision of an alternative mixed bouquet of cut flowers including *Kalanchoe*.

#### *Obviousness*

23. The skilled person in this case is a customer or a professional in the business of cut flowers. It belongs to the common general knowledge of the skilled person and is usual practice to arrange flowers of different genera and species into mixed bouquets. The board has not seen any argument from the appellant providing a reason why the skilled person preparing a mixed

bouquet, as suggested in document D3, would not also use flowers of a genus other than *Kalanchoe* in such a bouquet. Mixing of *Kalanchoe* with other flowers was thus obvious to the skilled person.

24. The board has, likewise, not been presented with reasons why the skilled person would not routinely also include *Kalanchoe* with stem length of at least 35 cm in a mixed bouquet. According to the patent specification itself (see paragraph [0023]) the varieties listed in document D3 are capable of producing such longer stem lengths. Thus, the skilled person could easily obtain such flowers, e.g. by ordering from the website of document D3. A stem length of the cut *Kalanchoe* of at least 35 cm was thus also an obvious possibility for the skilled person.
25. Thus, even if a more ambitious objective technical problem were formulated, as suggested by the appellant, i.e. provision of a mixed bouquet of cut flowers including *Kalanchoe* conferring further elongated freshness to an aqueous nutrient medium, this would not result in the subject-matter involving an inventive step. In fact, the skilled person would in any case have arrived at the claimed subject-matter, because both a stem length of at least 35 cm and the mixing of *Kalanchoe* with flowers of other genera were within the ambit of routine undertakings of a person skilled in the art.
26. In view of the above considerations, the board concludes that the claimed subject-matter does not involve an inventive step (Article 100(a) and Article 56 EPC).

*Auxiliary request 1 - claim 1*

*Sufficiency of disclosure (Article 83 EPC)*

27. The claim (see sections IV and VIII) concerns the use of *Kalanchoe* for prolonging the longevity of one or more cut flowers belonging to a genus different from *Kalanchoe*.
28. The patent discloses in Example 2 the testing of a number of *Kalanchoe* interspecific hybrid plants for viability in aqueous nutrient medium. In Example 3 the effect of the *Kalanchoe* hybrid variety "*Amazing Pink Meadow*" on the freshness of nutrient medium and longevity of other cut flowers (*Rosa*, *Dianthus*, *Chrysanthemum* and *Gerbera*) is tested in a single flower test measuring "*Fading*", "*Wilting*", "*Ornamental value*", "*Water consumption*" and "*Transmission*" (see Table 2). In Example 4, the effect of the *Kalanchoe* hybrid variety "*Amazing Pink Meadow*" on the freshness of nutrient medium and longevity of the decorative greenery *Pistacia* is tested in a "*Bouquet test*". In Example 5 a bouquet containing the *Kalanchoe* hybrid variety "*Amazing Pink Meadow*" is tested for its longevity in tap water. The patent further discloses in general that *Kalanchoe* have an "*antiseptic effect on the medium wherein they are kept, and may to this end comprise one or more substances that are excreted in the aqueous medium*" (see paragraph [0015]).
29. The opposition division held that the patent did not sufficiently disclose the claimed invention for two reasons. Firstly, it held that "*the skilled person does not have enough information in the application as originally filed and in the patent to find out the specific species of Kalanchoe flowers which increase longevity of cut flowers of a genus different from*

*Kalanchoe for the whole scope of protection without carrying out an undue amount of experimentation". Secondly, it maintained "that even for the interspecific hybrids it has not been clearly and unambiguously proven that when Kalanchoe flowers are present in a bouquet together with additional flowers they confer prolonged longevity to the other flowers (flowers of a genus different from Kalanchoe) in the bouquet independently on the other type of flowers". For these reasons, the opposition division concluded that "the patent does not make credible that all species of Kalanchoe are suitable to prolong longevity of flowers belonging to a genus different from Kalanchoe, let alone that they may achieve such an effect at any number of flowers in the bouquet and for any genus of the different flowers".*

30. The first objection of the opposition division that there was insufficient information in the patent to allow the skilled person to put the invention into practice over the whole breadth of the claims is not found to be persuasive by the board as it is not supported by evidence. On the contrary, the opposition division formulated the requirement that the patent should disclose either clear and unambiguous proof that an effect (here: "prolonging the longevity of one or more cut flowers belonging to a genus different from *Kalanchoe*") was obtained or whether attaining this effect was "*credible*". In doing so, however, the opposition division has followed the wrong principles for assessing compliance with the requirements of Article 83 EPC. Indeed, for sufficiency of disclosure to be denied, serious doubts need to be identified which are substantiated by verifiable facts (see Case Law of the Boards of Appeal of the EPO, 9th edition,

2019, II.C.7.1.4). The same conclusion applies to the second objection of the opposition division.

31. In the appeal, the respondent endorsed both objections of the opposition division, but they have not provided evidence and reasons in support of the objections either. Their arguments therefore do not go beyond unsubstantiated allegations.
  
32. As regards the first objection, the respondent submitted that the effect of "prolonging longevity of flowers which are not of the genus *Kalanchoe*", if any, was only obtained with "one type of *Kalanchoe*, i.e. *interspecific hybrid Kalanchoe*", because all experiments in the patent had been carried out using such hybrids. In support of this, they only referred to two passages in document D29 stating that "*cut flowers of interspecific hybrids of Kalanchoe, independent of the flower type, have a significant effect on the longevity of other cut flowers when kept in the same liquid medium, whereas normal Kalanchoe cut flowers do not show this effect; in contrast such Kalanchoe contribute to the fouling*" (see page 1, first paragraph), and "[t]hese effects were however not or significantly less observed for normal, i.e. *non-interspecific Kalanchoe*" (see page 7, second paragraph).
  
33. However, in the experimental section of document D29 it is demonstrated that normal (non-interspecific hybrid) *Kalanchoe* do have a positive effect on the longevity of other flowers as exemplified with the rose. This is reflected by the "*Ornamental value*" (see Graph 1 on page 2, light grey and white columns) and "*Water uptake*", both parameters correlating with the longevity of the flowers, "*as healthy cut flowers take up more*



*water than wilted and wilting ones*" (see Graph 3 on page 4 and page 5, second paragraph). Admittedly, the effect on the fouling of the vase water, as measured by optical density, is less pronounced. Still, a reduction is apparent when the value for the combined flowers in one vase is compared with the sum of the values of both flowers alone (an appropriate method of comparing, see document D30, page 2, last paragraph, to page 3, end of page). The board agrees with the latter assessment, because it is common sense that two flowers cause more fouling than a single flower in a vase. Accordingly, also in this respect, the board has not been presented with serious doubts that would merit holding that the claimed invention was insufficiently disclosed in the patent.

34. As regards the second objection of the opposition division, the respondent argued that "*the definition of the other flower(s) in the bouquet is too broad since there is only some visible longevity effect shown for Rosa*". The respondent relied on two experiments to demonstrate that the effect on longevity was not reproducible, an experiment with a rose and an interspecific, single flower type *Kalanchoe*, and an experiment with a *Dianthus* flower and an interspecific, double flower type *Kalanchoe* (see document D34). The respondent submitted that in both cases "*the flower in combination with Kalanchoe starts to wilt before the flower that is alone in the vase*".
  
35. The data in document D34 consist of a single experiment for each of rose and *Dianthus*. The board considers, not only in view of the variability of biological material, that these experiments do not pass the threshold of statistical relevance and the respondent has not made such an allegation either.

36. The patent on the other hand discloses experimental data for four plant genera which are not from the genus *Kalanchoe*, i.e. rose, *Dianthus*, *Chrysanthemum* and *Gerbera* (see Table 2). For flowers of plants of each of these genera, at least some of the measured parameters are positively influenced by the presence of *Kalanchoe* (see the values for the parameters "*Ornamental value*", "*Water consumption*" and "*Transmission*" in Table 2). The patent discloses that "[s]imilar results were obtained when any of the *Kalanchoe* varieties as mentioned in example 1 were used instead of the *Kalanchoe* variety '*Amazing Pink Meadow*' as described here". Further evidence for the effect on longevity of the rose, *Eustoma*, *Gerbera*, *Chrysanthemum* when kept in a vase with several different *Kalanchoe* interspecific hybrid varieties has been submitted in post-published document D31.
37. Finally, the respondent developed a further line of argument to the effect that instructions indicating how to obtain the effect of "prolonging the longevity of one or more cut flowers belonging to a genus different from *Kalanchoe*" were not referred to in the claim and that therefore the claim related to embodiments which did not achieve the effect. Reference was in particular made to the instruction to keep the flowers together in water, the amount of water and the number of flowers of *Kalanchoe* and of other flowers.
38. However, the board considers it to be part of the common general knowledge and practical knowledge of the skilled person to put cut flowers in water to keep them fresh. Furthermore, the patent also discloses that the cut flowers belonging to a genus different from *Kalanchoe* have to be in the same water as the

*Kalanchoe*. It also provides an explanation for the effect on longevity, which is likely to be caused by the release of anti-septic substances "*which one or more substances are believed to be taken up by the other cut plants, as a result of which these plants obtain the ability to live longer and to wither far later than compared to the situation without a cut flower of the genus Kalanchoe being, or having been in contact with the aqueous nutrient medium wherein the said cut flower is held*" (see paragraph [0015]). The skilled person also derives from this explanation that, for the effect to be achieved, the anti-septic substances should not be too diluted (i.e. by using an excessive volume of water or too few *Kalanchoe* flowers compared to the number of other flowers).

39. In view of the above considerations, and since the board has not been presented with evidence substantiating serious doubts as to whether the invention can be put into practice by the skilled person, the board considers that the disclosure of the patent satisfies the requirements set out in Article 83 EPC.

*Remittal to the opposition division (Article 111 EPC)*

40. The opposition division did not formulate opinions on novelty and inventive step of the subject-matter of auxiliary request 1 (identical to auxiliary request 9 in the opposition proceedings). The board therefore finds that special reasons present themselves to remit the case to the opposition division for further prosecution (Article 11 RPBA).

## Order

### For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The case is remitted to the opposition division for further prosecution on the basis of the set of claims of auxiliary request 1 as renumbered during the oral proceedings before the board.

The Registrar:

The Chair:



A. Chavinier Tomsic

B. Claes

Decision electronically authenticated