

Commissioner's Decision #1404

Décision du commissaire #1404

TOPIC: K10 (Living things); O00 (Obviousness); A11 (New Matter); B20 (Excessive Width);
B00 (Ambiguity or Indefiniteness)

SUJET: K10 (Matières vivantes); O00 (Évidence); A11 (Nouvelle matière); B20 (Portée
excessive); B00 (Caractère ambigu ou indéfini)

Application No.: 2,436,203

Demande n°.: 2,436,203

IN THE CANADIAN PATENT OFFICE

DECISION OF THE COMMISSIONER OF PATENTS

Patent application number 2,436,203 having been rejected under subsection 30(3) of the *Patent Rules*, has been reviewed in accordance with paragraph 30(6)(c) of the *Patent Rules*. The recommendation of the Patent Appeal Board and the decision of the Commissioner is to refuse the application.

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INTRODUCTION

- [1] Application 2,436,203, entitled “Identification of seeds or plants using phenotypic markers”, is owned by Monsanto Technologies LLC and stands rejected after the issuance of an examiner’s Final Action which took the position that the claims did not define subject matter that falls within the definition of invention under section 2 of the *Patent Act*. Other possible defects in the application were identified after the Applicant’s reply to the Final Action in the examiner’s Summary of Reasons, and by the present panel of the Patent Appeal Board (the Board) as part of an Initial Review of the rejected application. These other possible defects include: obviousness under section 28.3 of the Act; the introduction of new matter contrary to subsection 38.2(2) of the Act; overbreadth of claims; and, claim indefiniteness under subsection 27(4) of the Act.
- [2] As the result of our review, we recommend that the application be refused because the claims under review :
- 1) do not define subject matter that falls within the definition of invention under section 2 of the Act;
 - 2) define subject matter that would have been obvious to the skilled person, contrary to section 28.3 of the Act;
 - 3) incorporate new matter, contrary to subsection 38.2(2) of the Act;
 - 4) are overly broad; and,
 - 5) are indefinite, contrary to subsection 27(4) of the Act.
- [3] We are also not satisfied that specific amendments proposed by the Applicant are necessary for compliance with the *Patent Act* and *Patent Rules*. Accordingly, we decline to recommend that the Commissioner notify the Applicant under subsection 30(6.3) of the *Patent Rules* that they are necessary.

BACKGROUND

- [4] The subject application relates to methods of using seed coat colour genes to permit visual identification of harvested grain carrying a proprietary genetic trait without actually physically linking the seed coat colour genes to the proprietary trait. This in turn facilitates the collection of licensing fees from farmers for their use of the proprietary trait based on observation of coloured seed in the harvested grain through successive generations of planting.
- [5] The application teaches that two types of soybean plants – one carrying black seed coat genes and another carrying a proprietary genetic trait (e.g., a herbicide resistance gene) – can be planted in the same field to permit cross-pollination between the two. Cross-pollination introduces the black seed coat genes into the plant carrying the proprietary genetic trait, which in turn yields a mix of seed with differing seed coat colours, e.g., black and yellow. Detection of black seeds in grain harvested from successive generations of soybean plants indicates the presence of the proprietary genetic trait. The inheritance characteristics of the black seed coat genes ensure that black seeds will be detectable in successive generations, even if a farmer attempts to avoid paying licensing fees by physically removing black seeds before planting.

APPLICATION HISTORY

- [6] The subject application was filed in Canada on February 8, 2002. Examination culminated with the issuance of an examiner's Final Action on September 9, 2013, at which time the application was rejected because the eleven claims then on file were considered to be directed to subject matter excluded from the definition of invention; namely, methods of traditional plant breeding which follow the laws of nature and do not involve significant human intervention.
- [7] On March 10, 2014 the Applicant deleted the eleven claims on file and submitted six new claims in response to the Final Action. The new claims were presented in "use" format which, according to the Applicant, meant that the claims no longer recited method steps related to plant breeding, and that the rejection had therefore been obviated.

- [8] The examiner was neither persuaded that the claimed subject matter was within the definition of invention nor satisfied that the amended claims put the application in allowable form. A Summary of Reasons was therefore prepared and the application was referred to the Board for review. The Summary of Reasons identified a new defect in the amended claims: claim indefiniteness, contrary to subsection 27(4) of the Act.
- [9] The present panel of the Board was formed to conduct the review of the rejected application. As part of our Initial Review, we identified possible new defects in the claims on file: obviousness, new matter, and overly broad claims. The Applicant was provided with the Initial Review on February 25, 2016 and invited to provide written submissions in relation to the Initial Review and any other points considered relevant.
- [10] The Applicant provided written submissions (the “Written Submissions”) on April 19, 2016. The Written Submissions set forth arguments in favour of the patentability of the claims under review and also presented proposed claims for our consideration should we find the claims under review not patentable.
- [11] A hearing on the matter was held April 29, 2016 at which time the Applicant made oral submissions on both the claims under review and its proposed claims, and again asserted that the claims under review were not defective.

ISSUES

- [12] There are five issues to address in our recommendation; namely, whether the claims under review:
- 1) define subject matter that falls within the definition of invention under section 2 of the Act;
 - 2) define subject matter that would have been obvious to the skilled person, contrary to section 28.3 of the Act;
 - 3) incorporate new matter, contrary to subsection 38.2(2) of the Act;
 - 4) are overly broad; and,

5) are indefinite, contrary to subsection 27(4) of the Act.

[13] Because the Applicant has proposed new claims, and because we consider the claims under review non-compliant, we will also consider whether the proposed claims constitute specific amendments necessary for compliance with the Act or Rules.

CLAIMS UNDER REVIEW

[14] There are six claims under review, attached as Appendix I. Claim 1 is representative and reads:

Use of homozygote black seed coat soybean plants having genotype RRiiTT in separate, alternate rows in the same field as cultivars that have a genetically modified trait and that are not homozygote black seed coat soybean plants to produce a soybean seed mix.

CLAIM CONSTRUCTION

[15] In the Initial Review we set out a purposive construction of the claims under review in accordance with §13.05 of the *Manual of Patent Office Practice* [MOPOP]. Definitions of both the skilled person and the common general knowledge were presented and the Applicant did not indicate disagreement on these points in the Written Submissions.

The problem to be solved

[16] In our Initial Review, we identified the problem to be solved as “a need for a simple method of detecting the presence of proprietary traits in plants, seeds or harvested grain to facilitate collection of fees for the proprietary traits”. We explained that this was reflective of the nature of the invention, as described in the application: “there exists a need and desire for a simple method of detecting the presence of proprietary traits in plants, seeds, or harvested grain to facilitate collection of fees for the proprietary traits” (description, page 1, line 28 – page 2, line 1).

[17] However, we also noted that the claims refer to a “novel ‘use’ of a black seed coat soybean plant for producing a seed mix, but do not specify any particular purpose”. This led to our conclusion that the claims were removed from the problem to be solved because they did

not appear to address the underlying problem apparent to the skilled person upon reading the description.

- [18] In the Written Submissions, the Applicant argued that claim 1 “does specify the use, namely ‘to produce a soybean seed mix’”. The Applicant explained that “it is the deliberate co-located phenotypic and genotypic features of the novel seed mix produced by this use that enables the detection of the presence of proprietary traits in plants, seed or harvested grain.”
- [19] Alluding to advantageous tracking/detection features of the invention, the Applicant further submitted that “the seed mix of the invention ensures that each successive generation of grain produced after planting the seed mixture comprises seeds with black colour even if attempts are made to remove seed with the black seed coat from grain produced subsequent to planting the seed mixture.” The Applicant did not point to language in the claims that indicates these advantages.
- [20] We agree with the Applicant that claim 1 does specify a use – “to produce a soybean mix”. We also agree that the description indicates that the seed mix itself may be used for an advantageous purpose, i.e., to track a genetically modified trait of interest through successive generations.
- [21] To reiterate our comments made in the Initial Review, we point out that the claim, as worded, is *not* directed to the use of a soybean seed mix to realize certain advantages. It is directed to the *use of a plant having a certain genotype (“RRiiTT”), in a certain manner (in separate, alternate rows in the same field with a cultivar carrying a genetically modified trait), to produce a soybean mix*, and nothing more.
- [22] As set out in the Initial Review, neither the description nor the record indicates that there was a problem in producing a soybean seed mix. The problem the description teaches is grounded in “a need and desire for a simple method of detecting the presence of proprietary traits in plants, seeds, or harvested grain.”
- [23] We are mindful that an assessment of the problem to be solved is not based solely on a literal reading of the claims. It is based on the whole of the application, guided by the

common general knowledge and the teachings of the description (see MOPOP §§13.05.02b). As such, a purposive construction remains grounded in the problem we have identified in our Initial Review, and which would be apparent to the skilled person upon a reading of the whole of the application.

The solution proposed

[24] Our Initial Review agreed with the examiner's assessment of the solution as it is set out in the Summary of Reasons. The Summary of Reasons states:

The solution to the problem, as it appears from new claims 1-6, is the use of homozygote black seed coat soybean plants having a genotype RRiiTT in separate alternate rows in the same field as cultivars that have a genetically modified trait.

[25] We added that the claims under review do not appear to align with the underlying problem to be solved, as it has been described in the description, because the claims are not limited to a particular use that can be made of the soybean mix, i.e., so as to address "a need for a simple method of detecting the presence of proprietary traits in plants, seeds or harvested grain to facilitate collection of fees for the proprietary traits."

[26] In its Written Submissions, the Applicant expressed concern that "the advantages of the invention have been disregarded in the Examiner's analysis." In view of the comments made in relation to the problem to be solved, the Applicant suggested that an enhanced seed detection/tracking advantage accrues as a result of the claimed solution.

[27] We also note that the Applicant argued at page 11 of its Written Submissions (when addressing the question of patentable subject matter) that "It is not a requirement that the advantages of the product be defined in the claim".

[28] We do not agree with the Applicant's assertion that the examiner disregarded advantages of the invention. The complete text of the paragraph in the Summary of Reasons that gives rise to the Applicant's concerns makes clear that the examiner had *both* the claim language *and* the description in mind:

The problem to be solved in claims 1 to 6 appears to be the need for an improved method to produce a soybean seed mix. However, it is noted that the **description focuses mainly on the need for a simple method of detecting the presence of proprietary traits in plants, seeds or harvested grain to facilitate collection of fees for the proprietary traits.** The problem to be solved seems to have shifted during prosecution. [emphasis added]

- [29] In our view, the solution, as evident from the description, does not address a problem with a seed mix per se. The solution described addresses a problem related to “a need and desire for a simple method of detecting the presence of proprietary traits in plants, seeds, or harvested grain.”
- [30] In contrast, the solution claimed relates to something quite different: *the use of a plant having a certain genotype (“RRiiTT”), in a certain manner (in separate, alternate rows in the same field with a cultivar carrying a genetically modified trait), to produce a seed mix.*
- [31] The advantages the Applicant has mentioned are not directly attributable to the claimed subject matter. They are attributable to the use of a different thing for a different purpose, i.e., use of a seed mix to track a genetically modified trait of interest through successive generations.
- [32] Consequently, the advantages asserted by the Applicant are not regarded as forming part of the solution as stated in the claims. We are not persuaded that the examiner erred when the solution as *claimed* was assessed or that the advantages were disregarded in the examiner’s analysis.

The essential elements

- [33] In our Initial Review, we agreed with the Summary of Reasons which found that the essential elements are “the product (‘homozygote black seed coat soybean plants having genotype RRiiTT’) and the manner of planting (‘in separate, alternate rows in the same field’).” We added that the presence in the same field of “a plant cultivar having a genetically modified trait” is also essential.

[34] In its Written Submissions the Applicant agreed that the black seed coat soybean plants are an essential element, but submitted that this feature had been mischaracterized as “the product.” In the Applicant’s view, the product “would more correctly be referred to as ‘the seed mix’ from the combination of black seed coat soybean plants and specified cultivars.” The Applicant further submitted that the seed mix is an essential element as it allows for the detection/identification of proprietary traits. We agree and would include the soybean seed mix as an essential element of the claimed solution.

[35] The Applicant has not provided submissions on the position outlined in the Initial Review that the manner of planting, in separate, alternate rows in the same field, is an essential element.

[36] In sum, the essential elements of claim 1 include:

- 1) homozygote black seed coat soybean plants having genotype RRiiTT;
- 2) plant cultivars that have a genetically modified trait and that are not homozygote black seed coat soybean plants;
- 3) planting plants (defined as elements 1 and 2, above) in separate alternate rows in the same field; and,
- 4) a soybean seed mix (produced as a result of the cross-pollination of elements 1 and 2).

[37] In addressing the question of patentable subject matter, the Applicant argued in the Written Submissions that the third element of “in separate, alternate rows” is a not method step and asserted that the phrase further defines the claimed use. The Applicant suggested that even if the element could be construed as a method step, the step “merely provides a restriction to the recited use and thus is permissible.”

[38] In our view, the third element effectively amounts to a method step because it requires that different plant types be planted in different rows in close proximity to one another to ensure that the two types cross-pollinate, as is the case in traditional plant breeding. It does not, therefore, qualify the thing being used, or the purpose for its use. The skilled person

would understand it as restricting “how” the thing is used, i.e., in a method of plant breeding.

- [39] The claim is therefore construed as the use of a plant having a certain genotype (“RRiiTT”), in a certain manner (in separate, alternate rows in the same field with a cultivar plant carrying a genetically modified trait), to produce a soybean mix, and nothing more.
- [40] Finally, we reiterate the comments made in our Initial Review, which the Applicant did not directly address as a matter of claim construction, that there is no language in the claim that can be construed as limiting the claim to the problem and solution that is described, i.e. a need for a simple method of detecting the presence of proprietary traits in plants, seeds or harvested grain to facilitate collection of fees for the proprietary traits that can be addressed using a seed mix.

PATENTABLE SUBJECT MATTER

- [41] The Initial Review indicated our agreement with the position outlined in the Summary of Reasons that the claims do not define patentable subject matter. Notwithstanding the format of the claims as “uses”, the Summary of Reasons indicated that the essential claim elements, considered individually, are subject matter that is excluded from the definition of invention.
- [42] After considering the Applicant’s Written Submissions, and even taking the “soybean seed mix” as an essential element, we are not satisfied that the claims under review define subject matter that falls within the definition of invention under section 2 of the Act.
- [43] The “homozygote black seed coat soybean plants having genotype RRiiTT” is considered an excluded higher life form. The manner of planting is considered to relate to a method traditional plant breeding, also excluded from the definition of invention. The “cultivars that have a genetically modified trait and that are not homozygote black seed coat soybean plants” are also higher life forms, as is “a soybean seed mix.”
- [44] Therefore, when viewed in isolation, none of the four claim elements are individually directed to patentable subject matter. In our view, their combination under the guise of a

“use” claim does not render them patentable. The use of a non-patentable plant, in an excluded manner of traditional plant breeding, to produce a non-patentable seed mix cannot be considered on a purposive construction to be subject matter that falls within the definition of invention.

- [45] In the Written Submissions, the Applicant noted the panel’s acknowledgement “that although an essential element of the claims is a higher life form, the claims are not considered non-statutory simply on the basis that they may produce a higher life form product (subsection 17.02.02 of the *Manual of Patent Office Practice*).” The Applicant agreed with this statement but, in our view, was mistaken when it then concluded that “the Examiner’s rejection on this basis does not have merit and no further discussion on the point was deemed necessary”.
- [46] The panel’s acknowledgement should simply be taken as saying that the *mere* mention of a higher life form in the claims does not, *by itself*, lead to the conclusion that the claim, considered as a whole, is necessarily non-statutory. In principle, a method of producing a higher life form can be patentable subject matter, provided it involves significant human intervention (see *Harvard College v Commissioner of Patents*, 2002 SCC 76). In the present case, beyond the claims merely mentioning the production of higher life forms, we must also consider whether the claim as whole is non-statutory because it relies on a non-statutory method of plant breeding.
- [47] In the Written Submissions, the Applicant submitted that “the claims of this application are not method or process claims and thus do not claim a method of traditional plant breeding.” The Applicant further submitted that the claims are directed to a novel “use” and that novel uses are patentable subject matter in Canada. The Applicant drew an analogy between the present case and medical use claims:

Equating a novel use claim (statutory subject matter) to a claim directed to a method of traditional plant breeding (non-statutory) is akin to equating a novel use claim in the medical field (statutory subject matter) as being a method of medical treatment claim (non-statutory). A purposive understanding of a claim is required and will often lead to the conclusion that claimed uses are indeed directed to statutory subject matter.

- [48] We agree with the Applicant that a novel use might be patentable subject matter in Canada, but fail to see how the case law supports a general proposition that all allegedly novel uses are necessarily statutory. Furthermore, we are not aware of jurisprudence in which patentability of a use claim was established despite the claims being made up entirely of non-statutory elements.
- [49] As the Applicant acknowledges, a purposive construction will “often” lead to a conclusion that a claim to a “use” is statutory. However, presentation of a claim in “use” format does not automatically mean that the claim defines statutory subject matter in all cases. Indeed, the case law in the field of medical uses recognizes that a claim framed as a “use” can still be considered non-statutory if, following a purposive construction, it is found to essentially require the professional skill or judgement of a medical practitioner (see *Novartis Pharmaceuticals v Cobalt Pharmaceuticals*, 2013 FC 985, aff’d 2014 FCA 17; *Janssen Inc v Mylan Pharmaceuticals ULC*, 2010 FC 1123). Further, it bears mentioning that medical use claims typically refer to at least one statutory element, e.g., a medically useful chemical compound.
- [50] In the present case, the claimed use has been construed to be the use of a plant having a certain genotype (“RRiiTT”), in a certain manner (in separate, alternate rows in the same field with a cultivar plant carrying a genetically modified trait), to produce a soybean mix, and nothing more.
- [51] Consequently, we are not satisfied that the claims under review are directed to subject matter that falls within the definition of invention under section 2 of the Act.

OBVIOUSNESS

- [52] Our Initial Review identified the new issue of obviousness. We applied the four step-approach set out in *Apotex Inc v Sanofi-Synthelabo Inc*, 2008 SCC 61, the first step of which involves identifying the skilled person and the common general knowledge. As with claim construction, the Applicant did not dispute the panel’s assessments in these respects.

Inventive concept of the claims

[53] In our Initial Review we indicated that the inventive concept was “the use of a soybean plant homozygous for certain seed coat colour genes (RRiiTT), planted in separate alternate rows in the same field as cultivars that have a genetically modified trait and that are not homozygous for the seed coat colour genes, to produce a seed mix.”

[54] In the Written Submissions, the Applicant did not clearly indicate whether or not it agreed with the panel’s assessment of the inventive concept of the claims. Nor did the Applicant provide an explicit indication of an alternative inventive concept. It is not clear from the Applicant’s Written Submissions whether the purported advantages of the invention ought to form part of the inventive concept. As explained below, it is understood, however, that the purported advantages figure prominently in the Applicant’s arguments that the claims are not obvious.

Identify what, if any, differences exist between the matter cited as forming part of the “state of the art” and the inventive concept of the claim or the claim as construed

[55] In our Initial Review, we found that the net difference between the matter forming the state of the art and the inventive concept of the claims was considered to be the combination of the claim elements framed as a “use” for producing a seed mix.

[56] In the Written Submissions, the Applicant did not clearly indicate whether it disagreed with this assessment. Instead, the Applicant alluded to the purported advantages of the invention and submitted that the “present invention is directed to a novel use of a specific combination to produce a novel advantageous seed mix which allows the tracking of a proprietary trait in harvested soybean grain throughout successive generations.”

Viewed without any knowledge of the alleged invention as claimed, do those differences constitute steps which would have been obvious to the person skilled in the art or do they require any degree of invention?

[57] Our provisional view set out in the Initial Review was that the skilled person would appreciate that the difference between the state of the art and the inventive concept constitutes a step that would have been obvious. In brief, it was explained that the skilled person would expect that planting a known plant genotype, in separate alternate rows in the

same field as another type of known plant (a genetically modified one), would produce a seed mix.

[58] In the Written Submissions, the Applicant tied the claimed invention to certain advantages, stating that:

[T]he particular seed mix of the present invention (which is the result of the novel use of a specific plant (homozygote black seed coat soybean plants having genotype RRiiTT) in a field with cultivars that have a genetically modified trait (and are not homozygote-black seed coat soybean plants), and have the advantages provided thereby would not have been obvious to one skilled in the art at the date of the invention. As noted the use of the present invention provides a novel seed mix which is highly advantageous. The seed mix allows the detection and tracking of a proprietary trait in grain which improves the detection of patent infringement, allows the collection of fees associated with the proprietary trait and also ensures that each successive generation of grain produced after planting the seed mixtures comprises seeds with the black seed coat even if attempts are made to remove the seeds with black seed coat from grain produced subsequent to planting the seed mixture.

[59] The panel has not been persuaded by this line of argumentation for several reasons.

[60] Firstly, we note that the Applicant has suggested that the claimed use is novel and that it produces a particular seed mix. However, the record does not establish that the seed mix itself is novel, and even if novel, the question here is whether the claimed use would have been obvious to the skilled person. As regards the seed mix itself, we fail to appreciate the manner in which it is unique or particular, in terms other than its expected composition of seeds with differing seed coat colours (e.g., black and yellow seeds). In our view, the seed mix, itself, would not be considered remarkable by the skilled person. To reiterate our explanation provided in the Initial Review, the skilled person would know that individual seeds in the mix, at least in some quantity, may be of different colour due to inheritance of the various seed coat colour genes from each parent plant, i.e., as a result of meiotic segregation of seed coat genes and their recombination in progeny seed.

[61] Regarding the purported advantages of the claimed invention, we hold the view that any advantages must be directly attributable to the claimed subject matter and its inventive concept. In the present case, the inventive concept is not the use of a seed mix. The inventive concept is the use of a known plant having a certain genotype (“RRiiTT”), planted in separate alternate rows in the same field as cultivars that have a genetically modified trait and that are not homozygous for the seed coat colour genes, to produce a seed mix.

[62] Since the inventive concept is tied to the use of a plant, advantages of that use which would not be obvious to the skilled person could be considered in our assessment. However, no submissions on advantages of that use have been made in the present case and, more generally, we are not satisfied that the claims under review define subject matter that would not be obvious to the skilled person.

NEW MATTER

[63] Subsection 38.2(2) of the Act indicates that the specification may not be amended to describe matter not reasonably to be inferred from the specification or drawings as originally filed. Subsection 9.08 of MOPOP indicates that altering claim language to shift the point of invention is an impermissible introduction of new matter:

Remembering that an invention is a solution to a practical problem, it can be understood that amendments that tend to transform the invention as originally disclosed into a new invention - that is to say, into a new solution to the same or a different problem - constitute the addition of new matter.

Such amendments shift the point of invention and have the effect of causing a different invention to be disclosed than that in the specification as originally filed.

[64] In our Initial Review, we explained that the claims under review present the invention in “use” format for the first time, whereas during prosecution, the invention was framed as a method that included steps of plant breeding. We were also unable to discern where in the description as filed there is an inference that the invention broadly relates to a novel use of

a known soybean plant. We pointed out that the Applicant's response to the Final Action did not explain where the basis for the present claims is found in the description as originally filed.

- [65] In the Written Submissions, the Applicant submitted that the claims are fully supported by the present disclosure. The Applicant pointed to several passages in the description, and stated, in part, the following:

The disclosure teaches for example that "...a plant seed mixture useful in the present invention may contain primary colored seeds and secondary colored seeds...If soybeans are used, the secondary seed coat colors may be black..." (page 3, first paragraph).

Further the disclosure specifies that "The secondary colored seeds may be generated by planting homozygote black seed coat soybean plants in separate, alternate rows..." (page 3, second paragraph).

- [66] In our view the passages in the description on which the Applicant relies are descriptions of claim elements themselves. The passages on page 3, for instance, indicate that the seed mix contains seeds of different colours and that it may be produced through a certain manner of planting.
- [67] The passages referred to by the Applicant do not indicate that the invention, as it is now claimed, relates to the use of a plant having a known genotype, in a certain manner of planting, to produce a seed mix and nothing more. Comparing the present claims with the description as filed indicates that the claims ought to include additional elements to remain faithful to the problem and solution. As the Applicant acknowledges in the Written Submissions, "The problem and solution of the present invention are clearly set out in the description at least at the paragraph bridging pages 1 and 2, second and third full paragraphs on page 2 and first paragraph on page 5." These passages reflect "a need for a simple method of detecting the presence of proprietary traits in plants, seeds or harvested grain to facilitate collection of fees for the proprietary traits that can be addressed using a seed mix". However, the present claims shift the focus away from this problem and

solution, as they are described in the original specification, and omit language that would appropriately limit the claims.

[68] The net effect of the language of the claims under review is to shift the point of invention and broaden its scope in a manner that is new in relation to what was originally filed and described.

[69] We are therefore not satisfied that the claims presently on file are supported by the specification as originally filed and are of the view that they incorporate new matter, contrary to subsection 38.2(2) of the Act.

OVERBREADTH OF CLAIMS

[70] In the Initial Review we expressed our provisional view that the claims under review are broader than the invention described. Citing *Farbwerke Hoechst A/G v Canada Commissioner of Patents*, [1966] Ex CR 91, aff'd, [1966] SCR 604 and *Amfac Foods Inc v Irving Pulp & Paper, Ltd* (1987), 12 CPR (3d) 193, aff'g 80 CPR (2d) 59, we noted that the description indicates that the invention relates to a "simple method of detecting the presence of proprietary traits in plants, seeds or harvested grain to facilitate collection of fees for the proprietary traits". By contrast, the claims do not explicitly state the manner of the supposed novel "use" for the black coat soybean plant, which calls into question whether the claimed subject-matter is broader than the invention described.

[71] In the Written Submissions the Applicant argued that the "present invention is for producing a seed mix which in turn enables the detection/tracking of genetically modified proprietary traits over successive generations" and that "such tracking is desirous for a plurality of reasons a set out hereinabove and throughout the specification."

[72] As with our comments in relation to the problem to be solved, we agree with the Applicant that a seed mix may be used for an advantageous purpose, i.e., to track a genetically modified trait of interest through successive generations. However, we reiterate that the claim, as construed, is directed to the use of a plant having a certain genotype ("RRiiTT"), in a certain manner (in separate, alternate rows in the same field with a cultivar carrying a genetically modified trait) to produce a soybean mix, and nothing more. There is nothing in

the claim that could be construed as limiting the subsequent use of the seed mix for the purpose of detecting/tracking a proprietary trait through successive generations.

[73] We also note that the Applicant refers to the “present invention” but fails to explain the manner in which the invention described and the subject matter claimed are equivalent. In our view, the former is more limited than the latter indicates.

[74] Accordingly, we conclude that the claims under review are broader than the invention described.

CLAIM INDEFINITENESS

[75] In the Initial Review we agreed that the claims under review are indefinite under subsection 27(4) of the Act for the reasons expressed in the examiner’s Summary of Reasons. The phrase “in separate, alternate rows in the same field as cultivars that have a genetically modified trait” was considered unclear because it appeared to be defining how the plants are planted, i.e. a method of planting, rather than characterizing either the plant or its intended use.

[76] In the Written Submissions the Applicant submitted that the “use is clearly defined as being for the production of a seed mix”.

[77] We agree with the Applicant that an intended use is indicated in the claim, i.e., “to produce a soybean seed mix”, but fail to appreciate how such an indication overcomes an ambiguity in respect of a different phrase: “in separate, alternate rows in the same field as cultivars that have a genetically modified trait”. In our view, the latter language is suggestive of a manner of use of a plant but does not make it explicitly clear whether that is the case.

[78] The requirement under subsection 27(4) of the Act is that the claims define “distinctly and in explicit terms” the subject matter of the invention. In *Minerals Separation North American Corp v Noranda Mines Ltd*, [1947] Ex.C.R. 306 at 352 Thorson P. indicated that “the terms of a claim must be free from avoidable ambiguity”.

[79] Because ambiguity can be avoided through an explicit indication that the claim involves a method of planting, rather than simply the use of a plant, we conclude that the claim does not comply with subsection 27(4) of the Act.

PROPOSED CLAIMS

[80] An Applicant cannot, as a matter of right, amend their application after the time limit to respond to a Final Action has expired. Rather, once an application has been rejected, it can only be amended in the limited circumstances set out in the *Patent Rules*. The only one of these circumstances relevant to the present case is where the Commissioner has reviewed a rejected application and determined that it does not comply with the Act or Rules but has determined that specific amendments are necessary, the Commissioner shall inform an applicant accordingly. Subsection 30 (6.3) of the Rules provides:

If, after review of a rejected application, the Commissioner determines that the application does not comply with the Act or these Rules, but that specific amendments are necessary, the Commissioner shall notify the applicant that the specific amendments have to be made within three months after the date of the notice. If the applicant complies with that notice, the Commissioner shall notify the applicant that the application has been found allowable and shall requisition the payment of the applicable final fee set out in paragraph 6(a) or (b) of Schedule II within the six-month period after the date of the notice of allowance.

[81] In the present case, the Applicant proposed in its Written Submissions that we consider two new claim sets. Because the claims under review are non-compliant, we are now in a position to determine whether these proposed claim sets constitute specific amendments necessary for compliance under subsection 30(6.3) of the Rules. The proposed claims, denoted claim sets “A” and “B”, are attached as Appendices II and III.

[82] Having reviewed the proposed claims, we are not satisfied that they constitute specific amendments necessary for compliance with the Act or Rules.

Proposed claim set “A”

[83] Claim 1 of proposed set “A” is an amended version of claim 1 under review. It can be seen as made up of two parts. The first part bears a strong resemblance to claim 1 presently on file and precedes a “wherein” clause:

Use of homozygote black seed coat soybean plants having genotype RRiiTT in a same field as cultivars that have a genetically modified trait and that are not homozygote black seed coat soybean plants so as to produce a soybean mix that comprises seeds having genotype RRiiTT and seeds having the genetically modified trait . . .

[84] The second part constitutes the “wherein” clause and further describes features of the first part:

. . . wherein the presence of the black seed coat in said soybean mix allow [sic] tracking of said genetically modified trait in harvested soybean grain.

[85] As regards the first part, we note that it, like claim 1 under review, is directed to a “use” of a plant genotype in a field with another plant (i.e. a cultivar) so as to produce a soybean seed mix. The proposed claim sets out the make-up of the seed mix, but is otherwise the same as claim 1 on file. For the reason given above in respect of claim 1 under review, claim 1 of set “A”, insofar as it relates to its first part, would not constitute a specific amendment necessary for compliance with the Act or Rules.

[86] As regards the second part of the claim that constitutes the “wherein” clause, we are of the view that the skilled person would consider this language as merely describing an inherent, incidental advantage that may accrue as a result of the subsequent use of the soybean mix mentioned in the claim. It does not change the nature of the use defined in the first part of the claim or otherwise impart subject-matter to the claim. Accordingly, the addition of the “wherein” clause would also not constitute a specific amendment necessary for compliance with the Act or Rules.

Proposed claim set “B”

[87] Proposed claim 1 of set “B” is framed as a method of using seed coat colour for tracking a genetically modified trait of interest in soybean:

1. A method of using seed coat color for tracking a genetically modified trait of interest in soybean comprising:
 - i) generating a seed mixture comprising seeds of homozygote black seed coat soybean plants having genotype RRiiTT and seeds of a cultivar has the genetically modified trait and that are not homozygote black seed coat soybean plants wherein each successive generation of grain produced after planting said seed mixture comprises seeds with the black seed coat even if attempts are made to remove seeds with the black seed coat from grain produced subsequent to planting the seed mixture;
 - ii) taking a seed sample of one of the successive generations of soybean grains produced after planting said seed mixture; and
 - iii) determining the amount of seed with the black seed coat in the seed sample, wherein the presence of black seed coat in the seed sample indicates that the grain from the seed sample is [sic] obtained in step ii) originated from planting the seed mixture.

[88] In the Written Submissions the Applicant suggested that the claims of proposed set “B” “meet the criteria of physical existence and discernible effect and thus constitute statutory subject matter”.

[89] Having considered this claim, as well as the arguments put forward by the Applicant, we are not satisfied that it would constitute a specific amendment necessary for compliance with the Act or Rules.

[90] We acknowledge that there are indications in the claim that point favourably towards patentability. For instance, the preamble of the proposed claim and step i) both accord with the problem and solution described in the description in that the intended purpose of the claimed invention is for tracking a genetically modified trait of interest in successive generations of soybean plants. In view of the description, it may also be possible to

understand step i) as including steps distinct from steps of traditional plant breeding, such as selecting offspring plants using methods reliant on significant human intervention (herbicide application), and sorting seeds using a colour sorter machine. We also note that the proposed claim is similar (but narrower in some respects) to a claim considered previously during prosecution and not objected to on the grounds of non-statutory subject matter (see claim 14 of the claim set on file as of July 23, 2003, and the examination report dated November 23, 2009). The intended method of use of a seed mix suggested by the claim, as a marker for detecting misappropriation of a proprietary genetic trait, also appears to be novel in relation to what was commonly known.

- [91] However, concerns remain as to whether the claim clearly defines patentable subject matter. Steps ii) and iii) mentioned in the proposed claim may equate to mental steps involving simple visual identification of coloured seed in a sample accompanied by the mental determination that the sample contains black coloured seed. Step i) may be viewed in essence as involving traditional plant breeding, leading to the overall conclusion that the proposed method is a collective of non-statutory elements.
- [92] Ambiguities also exist in other respects. For example, the claim preamble refers to a “method for using a seed coat color” whereas the body of the claim appears to indicate that the skilled person is to make use of a seed mixture, which itself comprises seeds of different colours. It is also unclear whether step i), which speaks to “generating a seed mixture”, involves exclusively steps of traditional plant breeding. Lastly, we note that step iii) suggests that the presence of black seed coat in the seed sample indicates that the sample originated from the seed mixture, but does not explicitly indicate how it relates to tracking a genetically modified trait, as the claim preamble states.
- [93] In conclusion, we are not satisfied that the proposed claims constitute specific amendments necessary for compliance with the Act or Rules.

RECOMMENDATION

- [94] We recommend that the application be refused because the claims under review:

- 1) do not define subject matter that falls within the definition of invention under section 2 of the Act;
- 2) define subject matter that would have been obvious to the skilled person, contrary to section 28.3 of the Act;
- 3) incorporate new matter, contrary to subsection 38.2(2) of the Act;
- 4) are overly broad; and,
- 5) are indefinite, contrary to subsection 27(4) of the Act.

[95] We are also not satisfied that specific amendments proposed by the Applicant are necessary for compliance with the *Patent Act* and *Patent Rules*. Accordingly, we decline to recommend that the Commissioner notify the Applicant under subsection 30(6.3) of the *Patent Rules* that they are necessary.

Ed MacLaurin

Julie Treadwell

T. Nessim Abu-Zahra

Member

Member

Member

DECISION OF THE COMMISSIONER

[96] I concur with the findings and the recommendation of the Board and its recommendation that the application should be refused because the claims on file:

- 1) do not define subject matter that falls within the definition of invention under section 2 of the Act;
- 2) define subject matter that would have been obvious to the skilled person, contrary to section 28.3 of the Act;
- 3) incorporate new matter, contrary to subsection 38.2(2) of the Act;
- 4) are overly broad; and,
- 5) are indefinite, contrary to subsection 27(4) of the Act.

[97] Accordingly, I refuse to grant a patent on this application. Under section 41 of the *Patent Act*, the Applicant has six months within which to appeal my decision to the Federal Court of Canada.

Johanne Bélisle,
Commissioner of Patents
Dated at Gatineau, Quebec,
this 26th day of July, 2016

APPENDIX I: Claims under review

1. Use of homozygote black seed coat soybean plants having genotype RRiiTT in separate, alternate rows in the same field as cultivars that have a genetically modified trait and that are not homozygote black seed coat soybean plants to produce a soybean seed mix.
2. The use according to claim 1, wherein the genetically modified trait is herbicide resistance.
3. The use according to claim 2, wherein the genetically modified trait is glyphosate resistance.
4. The use according to claim 1, wherein with step (i) the coat color of seeds from the cultivar having the genetically modified trait is yellow.
5. The use according to claim 1, wherein the seed mix comprises between 0.1% to 10% by weight black seed coat seed.
6. The use according to claim 1, wherein the seed mix comprises between 0.5% to 4% by weight black seed coat seed.

APPENDIX II: Proposed claim set “A”

1. Use of homozygote black seed coat soybean plants having genotype RRiiTT in ~~separate, alternate rows in the~~ a same field as cultivars that have a genetically modified trait and that are not homozygote black seed coat soybean plants so as to produce a soybean seed mix that comprises seeds having genotype RRiiTT and seeds having the genetically modified trait, wherein the presence of the black seed coat in said soybean seed mix allow tracking of said genetically modified trait in harvested soybean grain.
2. The use according to claim 1, wherein the genetically modified trait is herbicide resistance.
3. The use according to claim 2, wherein the genetically modified trait is glyphosate resistance.
4. The use according to claim 1, wherein ~~with step (i)~~ the coat color of seeds from the cultivar having the genetically modified trait is yellow.
5. The use according to claim 1, wherein the seed mix comprises between 0.1% to 10% by weight black seed coat seed.
6. The use according to claim 1, wherein the seed mix comprises between 0.5% to 4% by weight black seed coat seed.
7. (New) The use according to claim 1, wherein said tracking facilitates the collection of licensing fees for the proprietary traits.

APPENDIX III: Proposed claim set “B”

1. A method of using seed coat color for tracking a genetically modified trait of interest in soybean comprising:
 - i) generating a seed mixture comprising seeds Use of homozygote black seed coat soybean plants having genotype RRiiTT in separate, alternate rows in the same field as and seeds of a cultivars that have has a the genetically modified trait and that are not homozygote black seed coat soybean plants to produce a soybean seed mix wherein each successive generation of grain produced after planting said seed mixture comprises seeds with the black seed coat even if attempts are made to remove seeds with the black seed coat from grain produced subsequent to planting the seed mixture;
 - ii) taking a seed sample of one of the successive generations of soybean grains produced after planting said seed mixture; and
 - iii) determining the amount of seed with the black seed coat in the seed sample, wherein the presence of black seed coat in the seed sample indicates that the grain from the seed sample is obtained in step ii) originated from planting the seed mixture.
2. The method of use according to claim 1, wherein the genetically modified trait of interest is herbicide resistance.
3. The method of use according to claim 2, wherein the genetically modified trait of interest is glyphosate resistance.
4. The method of use according to claim 1, wherein the coat color of seeds from the cultivar having the genetically modified trait is yellow.
5. The method of use according to claim 1, wherein the seed mix comprises between 0.1% to 10% by weight black seed coat seed.
6. The method of use according to claim 1, wherein the seed mix comprises between 0.5% to 4% by weight black seed coat seed.