



Common Claim Breadth Issues in Plant-Related Applications

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Art Units 1661 and 1638



Plant Patent vs Plant Utility Patents

■ Plant Patents

- One claim, drawn to the plant
- Specification can be amended to better describe the plant
- Relaxed requirement under 35 U.S.C. 112, first paragraph
- No maintenance fees
- Reduced examination/search fees

■ Utility Patent to a Plant

- Normal utility patents
- May have many claims drawn to products or methods
- May be broad in scope
- May require a deposit to enable



Art Unit Examiners

1661 – Plant Patents

1 Expert examiner

5 Primary examiners

1 hybrid classifier/examiner

Total = 7 examiners

1638 – Utility Patents

1 Senior examiner

2 PhD examiners

11 Primary examiners

4 Junior examiners

Total = 18 examiners



Patent Application Stats

- **1661 – PLTs (1 utility/biweek)**
 - **2010**
 - 1544 actions
 - 93% allowance rate
 - 1.4 actions per disposal
 - **2011 to midyear**
 - 621 actions
 - 91% allowance rate
 - 1.5 actions per disposal

- **1638 - Utility**
 - **2010**
 - 4111 actions
 - 65% allowance rate
 - 2.5 actions per disposal
 - **2011 to midyear**
 - 1914 actions
 - 66% allowance rate
 - 2.5 actions per disposal



Formal Issues - PLTs

- **Oath/Declaration**
 - **Must state that plant was asexually propagated by the applicant**
 - **If newly discovered, it must state that the plant was found in a cultivated area**
- **Elements of the application missing or not labeled**
 - **Missing Latin name of genus and species**
- **Claim, Abstract need to be on separate pages**



Common Issues with Plant Patent Applications

- **35 U.S.C. 112, first and second paragraphs following objection under 37 CFR 1.163(a)**
 - Single claim drawn to a plant (37 CFR 1.164)
 - 35 U.S.C. 161 description – Description as complete as is reasonably possible
 - Explicit location of asexual reproduction
 - Manner of asexual reproduction
 - Origin of instant plant
 - Comparison to antecedent and comparative varieties
 - Genus and species Latin binomial
 - Recognized color dictionary/chart
 - Unsupported colors
 - Drawings required
 - Unwarranted advertising
 - Laudatory expressions
 - Denomination required



Common Art Issues with PLTs

- **35 U.S.C. 102**
 - Same name for same genus and species
 - 105 Requirement for Information
 - In re Elsner type 102
 - Description lacking – can't distinguish from prior art
- **35 U.S.C. 103**
 - Common methods of manipulating plants
 - Mutation
 - Ploidy level - colchicine



Common Rejections made in Utility Applications

- **35 U.S.C. 101 – statutory subject matter, double patenting, utility**
- **35 U.S.C. 112, second paragraph - indefiniteness**
- **35 U.S.C. 112, first paragraph - enablement, scope of enablement, written description**
- **35 U.S.C. 102 – Novelty**
- **35 U.S.C. 103 - Obviousness**



Scope of the Claim

- Depends on the claim interpretation
 - Claims must be given their **broadest reasonable** interpretation **consistent** with the supporting description (specification) without reading limitations from the specification into the claim (MPEP §2111, *In re Hyatt*, 54 USPQ2d 1664, 1667 (Fed. Cir. 2000))
 - Words and phrases in claims must be given their “plain meaning” as understood by one having ordinary skill in the art UNLESS such meaning is inconsistent with the specification
MPEP §2111.01



Claim Interpretation

- Overall claim interpretation
- Definition of terms
- Preamble
- Transitional phrases



Parts of a claim

- A claim can be broken into parts much like diagramming a sentence.
- The beginning or introductory phrase of the claim is the “preamble”
 - May or may not limit the scope of the claim
- The next “part” is a transitional phrase
 - “comprising”, “consisting of”, or other like terms
 - *See: MPEP §2111.03* for more information
- Finally, the remainder of the claim is referred to as the “body” of the claim



Guidance in Determining When a Preamble *Will Likely* Limit a Claim

- 1) The preamble is essential to understand limitations or terms in the body of the claim.

Pitney Bowes, Inc. v. Hewlett-Packard Co., 51 USPQ2d 1161, 1165-66 (Fed. Cir. 1999).

- 2) The body of the claim depends on the preamble phrase for antecedent basis.

Bell Communications Research, Inc., v. Vitalink Communications Corp., 34 USPQ2d 1816, 1820 (Fed. Cir. 1995).



Guidance in Determining When a Preamble *Is Not Likely* Limit a Claim

- The body of the claim following the preamble is a self-contained description of the structure and does not depend on the preamble for completeness.
- A preamble that recites merely the use or purpose of the claimed invention generally does not limit the claims.
- The preamble merely extols benefits or features of the claimed invention and there is no clear reliance on those benefits or features as patentably significant.

(e.g., preamble recites, “[a] head for a lacrosse stick *which provides improved handling and playing characteristics.*”)

1) *Kropa v. Robie*, 88 USPQ at 480-481; *IMS Technology Inc. v. Haas Automation Inc.*, 54 USPQ2d 1129, 1137 (Fed. Cir. 2000).

2) *Catalina*, 62 USPQ2d at 1785.

3) *STX, LLC v. Brine, Inc.*, 54 USPQ2d 1347, 1349 (Fed. Cir. 2000).



Transitional Phrases

- **Open – comprising, including, containing, characterized by**
 - **Closed – consisting of**
 - **Partially Open – consisting essentially of**
-
- **See MPEP 2111.03**



“Wherein” or “Whereby” Clauses

- A “wherein” clause that merely states the result of the limitations in the claim adds nothing to the patentability or substance of the claim.
- A “wherein” clause that relates back to and clarifies what is required by the claim and gives meaning and purpose to the claim rather than merely stating inherent results is a limitation that must be given patentable weight.
- *See: MPEP §2111.04; See also Hoffer v. Microsoft Corp., 405 F.3d 1326, 1329, 74 USPQ2d 1481, 1483 (Fed. Cir. 2005).*



Product By Process Claims

- **Product claim**
- **Product defined by the method in which it is made**
- **Not limited to the recited steps, only the structure implied by the steps**

- **See MPEP 2113, *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985)**



Claim Analysis with Regard to the Statutes

- Rejections are generally a function of claim breadth
- 35 U.S.C. 112, second and fourth
- 35 U.S.C. 101 product of nature, not statutory, double patenting
- 35 U.S.C. 112, first, written description and scope of enablement, new matter
- 35 U.S.C. 102, novelty
- 35 U.S.C. 103, obviousness



What Possible Issues Does Claim 1 Have?

- **Claim 1. Cytochrome P450 protein having an amino acid sequence of SEQ ID NO: I, which originates from *Arabidopsis thaliana* and can be used for increasing salt tolerance in a plant.**
 - What utility does the protein have? Do we know what the protein is?
 - Not “Isolated” – 101, reads on product of nature
 - Second “An” – 102 novelty, reads on as little as 2 amino acids
 - “Originates from” – indefinite, written description, novelty
 - “can be used for” – carries no patentable weight
 - “increasing” – indefinite, relative to what?



More Potential Issues?

- **1. A method for enhancing yield-related traits in plants, comprising introducing and expressing in a plant a nucleic acid encoding a transcription factor, wherein the amino acid sequence of the transcription factor comprises the amino acid sequence of SEQ ID NO: 2 or an orthologue or paralogue thereof, wherein the orthologue or paralogue thereof comprises a motif having at least 70% identity to SEQ ID NO: 4.**
- **Note:**
 - **SEQ ID NO: 4 is ten amino acids long**
 - **SEQ ID NO: 2 is 400 amino acids long**



Potential Concerns

- 1. A method for enhancing **yield-related traits** in plants, comprising introducing and expressing in a plant a nucleic acid encoding a transcription factor, wherein the amino acid sequence of the transcription factor comprises the amino acid sequence of SEQ ID NO: 2 or an **orthologue or paralogue** thereof, wherein the orthologue or paralogue thereof comprises a motif having **at least 70% identity** to SEQ ID NO: 4.
- yield-related traits - indefinite, written description, enablement,
- orthologue or paralogue – written description, novelty, obviousness
- at least 70% identity – written description, novelty, obviousness



Other Potential Issues?

- A jalapeño-**type** chili pepper cultivar having **a** fruit characterized by a mature seed content of **at least 10% less than** that of **an existing jalapeño-type** chili pepper cultivar.
- Not drawn to a deposited line – enablement, written description, novelty, obviousness
- What is a jalapeño-type chili pepper? If a pepper is green or has capsaicin, is it a jalapeño-type chili pepper?
- The comparison is to any pepper? And it only needs to have one fruit that for some reason did not develop seeds?



What Possible Concerns Do You See?

1. An isolated polynucleotide comprising:
 - (a) a nucleotide sequence having at least 80% sequence identity to SEQ ID NO:1;
 - (b) a nucleotide sequence encoding a polypeptide having delta-5 desaturase activity, wherein the nucleotide sequence has at least 80% sequence identity to SEQ ID NO:1; or
 - (c) a nucleotide sequence encoding a polypeptide having delta-5 desaturase activity, wherein the nucleotide sequence hybridizes under stringent conditions to a nucleotide sequence as set forth in SEQ ID NO:1.



Issues?

- 1. An isolated polynucleotide comprising:
 - (a) a nucleotide sequence having at least **80% sequence identity** to SEQ ID NO:1;
 - (b) a nucleotide sequence encoding a polypeptide having delta-5 desaturase activity, wherein the nucleotide sequence has at least **80% sequence identity** to SEQ ID NO:1; or
 - (c) a nucleotide sequence encoding a polypeptide having delta-5 desaturase activity, wherein the nucleotide sequence **hybridizes under stringent conditions** to a nucleotide sequence as set forth in SEQ ID NO:1.



Part (a) - Potential Issues

- (a) a nucleotide sequence having at least **80% sequence identity** to SEQ ID NO:1
 - Scope of enablement – no functionality for some of the sequences, so how would they be used?
 - Possible art



Part (b) – Potential Issues

- (b) a nucleotide sequence encoding a polypeptide having delta-5 desaturase activity, wherein the nucleotide sequence has at least **80% sequence identity** to SEQ ID NO:1
 - Written description unless Δ -5 desaturase so well characterized that one would know what domains would need to be retained to have activity
 - Possible art



Part (c) – Potential Issues

- (c) a nucleotide sequence encoding a polypeptide having delta-5 desaturase activity, wherein the nucleotide sequence **hybridizes under stringent conditions** to **a** nucleotide sequence as set forth in SEQ ID NO:1
 - Written description unless Δ -5 desaturase so well characterized that one would know what domains would need to be retained to have activity
 - Potential art due to “hybridizes”
 - Indefinite because it is not clear what hybridizes especially in the face of close prior art
 - Potential art and written description due to “a” because it reads on small fragments
 - Any coding sequence or cDNA having 20 or so base pair complementarity – perform a score over length oligo search
 - Is hybridization defined or just exemplified?



Questions?

- **Anne Marie Grünberg 571-272-0975**



Anne Marie Grunberg holds B.S. and M.S. degrees from the University of Maryland in agronomy with a special emphasis on plant breeding. Her thesis pertained to Amplified Fragment Length Polymorphism (AFLP) markers associated with pre-harvest sprouting in soft red winter wheat. She joined the USPTO in July of 1998 and examined in classes 47, 435, 799 and 800. Anne Marie became a Supervisory Patent Examiner in November, 2005 and received the Department of Commerce Bronze Medal Award in 2006. She currently supervises 25 examiners in 2 plant related art units: 1638 and 1661. Anne Marie is a veteran of the United States Army.