Trials@uspto.gov
571-272-7822

Paper No. 52
Entered: June 13, 2016

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

AMERICAN SIMMENTAL ASSOCIATION,
Petitioner,

v.

LEACHMAN CATTLE OF COLORADO, LLC,
Patent Owner.

Case PGR2015-00005
Patent 8,725,557 B1

Before PHILLIP J. KAUFFMAN, MICHAEL W. KIM, and WILLIAM M. FINK, *Administrative Patent Judges*.

KIM, *Administrative Patent Judge*.

FINAL WRITTEN DECISION

35 U.S.C. § 328(a) and 37 C.F.R. § 42.73

I. INTRODUCTION

A. Background

American Simmental Association ("Petitioner") filed a Petition ("Pet.") for post-grant review of claims 1–20 of U.S. Patent No. 8,725,557 ("the '557 patent") (Ex. 1001) pursuant to 35 U.S.C. §§ 321–329. Paper 1. Leachman Cattle of Colorado, LLC ("Patent Owner") filed a Preliminary Response. Paper 8; "Prelim. Resp." On June 19, 2015, we instituted a post grant review of claims 1–20 on certain grounds of unpatentability alleged in the Petition. Paper 16 ("Dec."). After institution of trial, Patent Owner filed a Patent Owner Response (Paper 32, "PO Resp.") and Petitioner filed a Reply (Paper 36, "Pet. Reply"). Patent Owner also filed a Motion to Amend (Paper 33, "PO Amend.") to which Petitioner filed a Response (Paper 37, "Pet. Resp.") and Patent Owner filed a Reply (Paper 40, "PO Reply"). Patent Owner filed a Motion to Exclude (Paper 44, "PO Mot."), to which Petitioner filed a Response (Paper 47, "Pet. Mot. Resp.") and Patent Owner filed a Reply (Paper 48, "PO Mot. Reply"). An oral hearing was held on March 1, 2016. Paper 51 ("Tr.").

The Board has jurisdiction under 35 U.S.C. § 6(c). In this Final Written Decision, issued pursuant to 35 U.S.C. § 328(a) and 37 C.F.R. § 42.73, we determine that Petitioner has shown by a preponderance of the evidence that all claims for which trial was instituted, i.e., claims 1–20, are unpatentable. Patent Owner's Motion to Amend is *denied*. Patent Owner's Motion to Exclude is *dismissed* as moot.

B. The '557 Patent

The '557 patent relates generally to genetic quality and relative market value of livestock. Ex. 1001, 1:23–25. The '557 patent further discloses the following:

> More specifically, embodiments of the present invention facilitate an owner or potential buyer of one or more sale groups of livestock to evaluate the relative market value of the sale groups based on predictions derived from genetic merit estimates of the herd.

Ex. 1001, 1:25–29. Ranchers invest significant amounts of money to build quality herds of livestock with desired genetic merits. Ex. 1001, 1:31–32. Most ranchers, however, are not able to realize an increased value for their livestock with desired genetic merits, and instead sell their annual livestock crops on the commodity market at or near average price for all livestock. Ex. 1001, 1:35–38. Therefore, according to the '557 patent, it is very important to determine what the actual value of the livestock is, and more specifically what premium or discount the livestock should command based on these desired genetic merits. Ex. 1001, 1:47–49.

C. Related Matters

Petitioner and Patent Owner identify the following reissue application involving the '557 patent: 14/516,372 ("the '372 application"). Pet. 2; Paper 6, 2.

Petitioner and Patent Owner identify additionally the following related patent and patent application: U.S. Patent No. 8,660,888 ("the '888 patent"); U.S. Patent Application No. 14/516,353 (re-issue of the '888 patent) ("the '353 application"). Pet. 1–2; Paper 6, 2. Patent Owner identifies also the following related patent applications: PCT/US2014/019775; U.S. Patent Application No. 14/226,236; and U.S. Patent Application No. 14/286,857. Paper 6, 2.

Petitioner and Patent Owner additionally assert that there are currently no pending district court proceedings concerning the '557 patent. Pet. 1; Paper 6, 3.

Petitioner also has filed a Petition for post-grant review of the '888 patent: PGR2015-00003.

D. Illustrative Claim

Independent claim 8 is reproduced below:

> 8. A computer-implemented method to determine relative market value of a sale group, the computer implemented method comprising the steps of:
>
> generating a genetic merit interface to display at one or more electronic interfaces, the genetic merit interface allowing an input of a plurality of genetic merit estimates associated with the sale group;
>
> determining, by one or more processors, relative market value and one or more rankings of genetic merits of the sale group responsive to the plurality of genetic merit estimates from the genetic merit interfaces; and
>
> outputting to one or more electronic interfaces a genetic merit scorecard for the sale group responsive to determining the relative market value and one or more rankings of genetic merits of the sale group, the genetic merit scorecard including the relative market value and one or more rankings of genetic merits of the sale group.

E. Instituted Grounds of Unpatentability

A trial was instituted as to the unpatentability of claims 1–20 on the following grounds:

Reference(s)	Basis	Challenged Claim(s)
(not applicable)	§ 101	1–20
Wang[1] and the Angus system[2]	§ 103	1–20

[1] US 2007/0105107 A1, pub. May 10, 2007 ("Wang"; Ex. 1004).

[2] Petitioner provides the following evidence in support of "the Angus system": Declaration of Ms. Ginette Kurtz ("Kurtz Decl."; Ex. 1011); Declaration of Dr. Dan Moser ("Moser Decl."; Ex. 1012); Printout from Angus's website, 2014 ("Angus 1"; Ex. 1013); Printout from AngusSource website, 2010 ("Angus 2"; Ex. 1014).

Petitioner also cites the Declaration of Dr. Matthew Spangler (Ex. 1015; "the Spangler Decl.").

F. Eligibility of Patent for Post-Grant Review

The post-grant review provisions of the Leahy-Smith America Invents Act ("AIA")[3] apply only to patents subject to its first inventor to file provisions. AIA § 6(f)(2)(A). Specifically, the first inventor to file provisions apply to any application for patent, and to any patent issuing thereon, that contains or contained at any time a claim to a claimed invention that has an effective filing date on or after March 16, 2013. AIA § 3(n)(1). Furthermore, "[a] petition for a post-grant review may only be filed not later than the date that is 9 months after the date of the grant of the patent or of the issuance of a reissue patent (as the case may be)." 35 U.S.C. § 321(c); *see also* 37 C.F.R. § 42.202(a).

Petitioner asserts that the '557 patent is a first-to-file patent, and indicates that the earliest possible effective date of the '557 patent is April 13, 2013. Pet. 2–3. Petitioner asserts further that the instant Petition is being filed within nine months of the February 25, 2014 issue date of the '557 patent. Pet. 2–3. Patent Owner does not dispute these assertions, and we agree that they are accurate. Accordingly, we conclude that the ''888 patent was eligible for post-grant review at the time the Petition was filed.

II. ANALYSIS

A. Level of Ordinary Skill

Petitioner asserts that a person of ordinary skill in the art of the '888 patent would have "at least a Master's degree in Animal Breeding and Genetics plus at least 5–7 years of experience in the field, or a PhD in Animal Breeding and

[3] Pub L. No. 112-29, 125 Stat. 284 (2011).

Genetics plus at least 2–4 years of experience in the field." Pet. 10–12 (citing Ex.1015 ¶¶ 6–12). Patent Owner contends generally that Petitioner's asserted level of ordinary skill is too high, countering with the following:

> A person of ordinary skill in the field of the '557 Patent (the "**POSITA**") would have been someone with a good working knowledge of the cattle industry (including the feeder calf production market) and agricultural economics, mathematics, and computer programming as applied to this industry. (Ex. 2022, ¶ 52; Ex. 2024, ¶ 50.) A POSITA would have also had a basic understanding of breeding and genetics, as applied to the feeder calf production market. (Ex. 2022, ¶ 52; Ex. 2024, ¶ 50.) A POSITA would have gained her knowledge through a Bachelor of Science degree in animal science, agricultural business, or a comparable field (including coursework in beef production), and three to five years of relevant work experience. (Ex. 2022, ¶ 52; Ex. 2024, ¶ 50.) This would necessarily include experience in the purchase and sale of feeder calves. (Ex. 2022, ¶ 52; Ex. 2024, ¶ 50.)

PO Resp. 23–24. Petitioner responds that because evaluation of genetic quality is involved, a bachelor of science degree is inadequate, and that in requiring economics and software backgrounds, Patent Owner improperly ignores that the person of ordinary skill here is the developer, and not the end-user. Pet. Reply 4.

Ultimately, we discern that Petitioner and Patent Owner are not very far apart. On education, we agree with Petitioner that evaluating genetic quality is sufficiently complex that it would require, at a minimum, a Master's Degree in the field. On work experience, we agree with both parties that several years of experience in the field is necessary, with the optimum for a Master's Degree being five years, and commensurately less for an individual possessing a PhD. We agree with Patent Owner that some understanding of economics and software is required, but agree with Petitioner that such understanding need only be a basic one that can be readily acquired through work experience in the field, with no formal education in that field being necessary. Finally, we disagree with Patent Owner that formal

training or experience specific to the feeder calf market needs to be addressed separately, as, for the reasons set forth below, we are unpersuaded that evaluating feeder calves as a subgroup differs materially from evaluation of cattle overall, and that one of ordinary skill in evaluating of genetic quality of cattle generally would not have been familiar with feeder calves specifically, especially when the overwhelming goal of cattle production is to sell beef, of which the primary type sold is feeder calves.

Perhaps more importantly, the significance of the level of ordinary skill in the art here is the role it plays in an obviousness analysis, and Patent Owner has not explained in a sufficiently persuasive manner how the disparate definitions impact dispositively the obviousness analysis. *See Graham v. John Deere Co.*, 383 U.S. 1, 17-18 (1966); *Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001) ("[T]he level of skill in the art is a prism or lens through which a judge, jury, or the Board views the prior art and the claimed invention."); *Ryko Mfg. Co. v. Nu-Star, Inc.*, 950 F.2d 714, 718 (Fed. Cir. 1991) ("The importance of resolving the level of ordinary skill in the art lies in the necessity of maintaining objectivity in the obviousness inquiry.").

Accordingly, unless expressly indicated otherwise, we determine that a specific finding on the level of skill in the art is not required, because the prior art itself reflects an appropriate skill level. *See Okajima*, 261 F.3d at 1355.

B. Claim Construction

In a post-grant review, a claim in an unexpired patent shall be given its broadest reasonable construction in light of the specification of the patent in which it appears. 37 C.F.R. § 42.200(b); *see also In re Cuozzo Speed Techs., LLC*, 793 F.3d 1268, 1277–78 (Fed. Cir. 2015) ("We conclude that Congress implicitly approved the broadest reasonable interpretation standard in enacting the AIA."),

cert. granted sub nom. Cuozzo Speed Techs. LLC v. Lee, 136 S. Ct. 890 (mem.) (2016). Under the broadest reasonable construction standard, claim terms are given their ordinary and customary meaning, as would be understood by one of ordinary skill in the art in the context of the entire disclosure. *In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007). Any special definition for a claim term must be set forth in the specification with reasonable clarity, deliberateness, and precision. *In re Paulsen*, 30 F.3d 1475, 1480 (Fed. Cir. 1994). We must be careful not to read a particular embodiment appearing in the written description into the claim if the claim language is broader than the embodiment. *In re Van Geuns*, 988 F.2d 1181, 1184 (Fed. Cir. 1993). We construe the terms below in accordance with these principles.

1. "relative market value"

Each of independent claims 1, 8, and 14 recites "relative market value." For example, independent claim 8 recites "determining, by one or more processors, relative market value and one or more rankings of genetic merits of the sale group responsive to the plurality of genetic merit estimates from the genetic merit interfaces." Petitioner proffers that "relative market value" should be construed as follows: "the value of the sale group as compared to the value of a baseline group." Pet. 13–14 (citing Ex. 1001, 19:27–35; Ex. 1015 ¶ 28; emphasis omitted). The '557 patent discloses the following concerning "relative market value":

> The relative market value may be expressed in various ways. In one embodiment, the relative market value is a difference in market value per head of a sale group compared to the market value of a sale group that represents the average progeny of all registered bulls in the country or market region. In another embodiment, the relative market value is a difference in market value per centum weight of the sale group compared to the market value per centum of a sale group that represents the average progeny of all registered bulls in the country or market region.

Ex. 1001, 19: 26–35. In the Decision on Institution, we construed "relative market value," in the context of the aforementioned surrounding claim language, as "the market value of a sale group as compared to the market value of any other market group." Dec. 7 (citing Ex. 1001, 19:26–35)[4]. Petitioner appears to agree with this construction. Pet. Reply 6–7 (citing Ex. 1001, 20:38–43; 22:32–34; 22:61–23:18; 24:3–5; 25:56–26:10).

Through their assertions concerning the prior art, Patent Owner may be implicitly asserting that "market value of any other market group" only makes sense if it is the "national market average value." PO Resp. 49–50. We disagree. The claim limitation itself reads "relative market value," and does not include either the "national" or "average," and the aforementioned portion of the '557 patent discloses expressly that "relative market value may be expressed in *various ways*," providing a non-limiting example of at least "the market value of a sale group that represents the average progeny of all registered bulls in the *country or market region*."

Also through their assertions concerning the prior art, Patent Owner appears to be implicitly asserting that by including the phrase "any other market group," any values used to calculate the "relative market value" must be of a format that is standardized to allow comparisons across *all* other market groups, for example, across different breeds. PO Resp. 46–50. We disagree. Neither the express claim language nor the aforementioned portion of the '888 patent requires that any values used to calculate the recited "relative market value," or even the "relative market value" itself, be comparable across *all* market groups. Certainly calculating a

[4] Divorced from surrounding claim language, we construe "relative market value" as "the market value of something as compared to the market value of any other market group."

value of one breed that is of a format that allows direct comparisons to a value of any other breed would appear to be more useful. The claim language itself, however, does not require such a result. For example, even if any values are only applicable to one specific breed, so long as there are two different market groups of that specific breed that are compared using that format, the value resulting from that comparison would still meet the recited "relative market value." To eliminate any such confusion, we modify the aforementioned construction of "relative market value," in the context of the aforementioned surrounding claim language, as follows: "the market value of a sale group as compared to the market value of *at least one* other market group."

2. "sale group"

Each of independent claims 1, 8, and 14 recites "sale group." For example, independent claim 8 recites "generating a genetic merit interface to display at one or more electronic interfaces, the genetic merit interface allowing an input of a plurality of genetic merit estimates associated with the sale group." Petitioner proffers that "sale group" should be construed as follows: "one or more animals." Pet. 14 (citing Ex. 1001, 11:5–6, 34–35). In the Decision on Institution, we construed "sale group" as "one or more animals." Dec. 7–8 (citing Ex. 1001, 11:5–6, 11:34–35; Ex. 2001). Patent Owner makes several assertions concerning this construction (PO Resp. 23–26), to which Petitioner replies (Pet. Reply 5–6). Specifically, Patent Owner implies that "sale group" should be construed as "cattle to be sold." PO Resp. 40–41. We disagree that "sale group" should be construed as requiring cattle. None of the independent claims restrict "sale group" to "cattle," and column 11, lines 5–6 of the '557 patent sets forth an express definition of "sale group," and that definition does not include anything about "cattle."

Concerning "to be sold," "sale group" does include the word "sale," and, thus, we are persuaded that some aspect of "sale" should be included in the express construction of "sale group." We determine also that the appropriate articulation of "sale" for "sale group," in the context of surrounding claim language, is "for which a relative market value is determined." The '557 patent confirms this understanding. Ex. 1001, 11:5-6 ("[a]s used herein, a sale group is an animal or plurality of animals *for which a relative market value is determined*") (emphasis added). Accordingly, to give effect to the word "sale" consistent with the specification, we modify our construction as follows: "one or more animals **for which a relative market value is determined**."

After considering all evidence and assertions concerning this claim construction, we construe "sale group" as "one or more animals for which a relative market value is determined."

3. "genetic merit scorecard"

Each of independent claims 1, 8, and 14 recite "genetic merit scorecard." Petitioner asserts that "genetic merit scorecard" should be construed as "visual display of genetic merit information." Pet. 17–18 (citing Ex. 1001). Patent Owner does not dispute this construction. PO Resp. 23–26. After considering all evidence and assertions concerning this claim construction, we agree with Petitioner that "genetic merit scorecard" should be construed as "visual display of genetic merit information."

C. Claims 1–20 as Failing to Recite Statutory Subject Matter

Petitioner contends that claims 1–20 fail to recite statutory subject matter under 35 U.S.C. § 101. Pet. 28–38 (citing Exs. 1001, 1006, 1007, 1008, 1015). Patent Owner disagrees. PO Resp. 58–69 (citing Exs. 1001, 2002, 2003, 2018,

2022, 2034). Petitioner replies. Pet. Reply 7–12 (citing Ex. 1001). Claims 1, 8, and 14 are independent.

1. Relevant Law

Under 35 U.S.C. § 101, an invention is patent-eligible if it claims a "new and useful process, machine, manufacture, or composition of matter." 35 U.S.C. § 101. The Supreme Court, however, has long interpreted § 101 to include implicit exceptions: "[l]aws of nature, natural phenomena, and abstract ideas" are not patentable. *See, e.g., Alice Corp. Pty Ltd. v. CLS Bank Int'l*, 134 S. Ct. 2347, 2354 (2014).

In determining whether a claim falls within the excluded category of abstract ideas, we are guided in our analysis by the Supreme Court's two-step framework, described in *Alice*, 134 S. Ct. at 2355, and *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 132 S. Ct. 1289, 1296–97 (2012). In accordance with that framework, we first determine whether the claim is "directed to" a patent-ineligible abstract idea. *See Alice*, 134 S. Ct. at 2356 ("On their face, the claims before us are drawn to the concept of intermediated settlement, *i.e.*, the use of a third party to mitigate settlement risk"); *Bilski v. Kappos*, 130 S. Ct. 3218, 3231 (2009) ("Claims 1 and 4 in petitioners' application explain the basic concept of hedging, or protecting against risk . . . ."); *Diamond v. Diehr*, 450 U.S. 175, 184 (1981) ("Analyzing respondents' claims according to the above statements from our cases, we think that a physical and chemical process for molding precision synthetic rubber products falls within the § 101 categories of possibly patentable subject matter."); *Parker v. Flook*, 437 U.S. 584, 594–95 (1978) ("Respondent's application simply provides a new and presumably better method for calculating alarm limit values."); *Gottschalk v. Benson*, 409 U.S. 63, 64 (1972) ("They

claimed a method for converting binary-coded decimal (BCD) numerals into pure binary numerals.").

The patent-ineligible side of the spectrum includes fundamental economic practices, *Alice*, 134 S. Ct. at 2357, *Bilski*, 130 S. Ct. at 3231; mathematical formulas, *Flook*, 437 U.S. at 594–95; and basic tools of scientific and technological work, *Benson*, 409 U.S. at 69. On the patent-eligible side of the spectrum are physical and chemical processes, such as curing rubber, *Diamond*, 450 U.S. at 184, "tanning, dyeing, making waterproof cloth, vulcanizing India rubber, smelting ores," and a process for manufacturing flour, *Gottschalk*, 409 U.S. at 69 (internal citations omitted).

If the claim is "directed to" a patent-ineligible abstract idea, we then consider the elements of the claim—both individually and as an ordered combination—to assess whether the additional elements transform the nature of the claim into a patent-eligible application of the abstract idea. *Alice*, 134 S. Ct. at 2355. This is a search for an "inventive concept"—an element or combination of elements sufficient to ensure that the claim amounts to "significantly more" than the abstract idea itself. *Id.*

2. Whether Claims 1–20 Recite an Abstract Idea

Petitioner asserts that independent claims 1, 8, and 14 are directed to the fundamental concept of "determining an animal's relative economic value based on its genetic and physical traits," and that such a fundamental concept is a patent ineligible abstract idea. Pet. 30–33. Specifically, Petitioner asserts the following:

> Peeling back the flowery language of claims 1, 8, and 14, these claims essentially call for: (1) accepting inputted information regarding animal characteristics (or "genetic merit estimates"), (2) running a set of predetermined mathematical formulas using the inputted animal characteristics information to determine a monetary value of the animal, and (3) outputting the result of such formulas, including a

> ranking of certain of the animal's characteristics. These steps capture the fundamental principle of determining an animal's relative economic value based on its genetic and physical traits. (Spangler Decl., ¶ 51.)
>
> For centuries, cattle producers have judged the value of animals based on their physical traits and parentage. (Id. at ¶ 52.) Many decades ago, cattle producers began measuring the traits of animals and recording the collected data. (Id.) By creating algorithms for determining the relative value of animals based on the various measured traits, experts in this area long ago developed better valuation and breeding practices. (Id.) This concept is so fundamental and prevalent in today's market as to have become ubiquitous in the cattle industry. (Id.)

Pet. 30–31. Petitioner asserts further that none of dependent claims 2–7, 9–13, and 15–20 set forth any limitations that require deviation from the aforementioned fundamental concept.

Patent Owner counters with the following:

> The claimed invention is directed to **analyzing and measuring the market potential (including market value and ranking) of a sale group of feeder calves (actual calves to be sold), based on information obtained from disparate sources, and transforming these results into dynamically-generated scorecards available on demand by users interested in purchasing the sale group**. (*E.g.*, Ex. 1001, Abstract, 2:6-44.) Importantly, by dynamically generating these scorecards, the relative market value can be personalized to the user based on each individual's unique circumstances. (Ex. 2022, ¶ 61.) The Board stated in its Institution Decision that, based on the record available to it at the time, the '557 Patent was directed to the mere abstract idea of "determining an animal's relative economic value based on its genetic and physical traits." (Paper 16 at 13.) The claimed invention does not preempt anyone from applying this alleged abstract idea. (Ex. 2022, ¶ 61.) Rather, it provides cutting edge technology and a resulting product that has never been available before and is based on a very new approach – a system that provides, through the aggregation of myriad disparate data, a scorecard with an accurate estimation of monetary worth, of actual feeder calves to be sold. (Ex. 2022, ¶ 61.)

PO Resp. 59 (emphasis added). In essence, Patent Owner asserts that Petitioner's proffered fundamental concept is overly generalized, and asks us to modify Petitioner proffered fundamental concept of "determining an animal's relative economic value based on its genetic and physical traits" to include additional words including "sale group of feeder calves," "disparate sources," "transforming," "dynamically," and "on-demand." *See also* PO Resp. 63–64. We disagree that such a modification is appropriate, for the reasons set forth below. For purposes of clarity, we will evaluate both Petitioner and Patent Owner's positions only with respect to independent claim 1, however, a similar analysis is applicable to each of claims 1–20.

Fundamentally, a proper evaluation of Petitioner's position vis-à-vis Patent Owner's position should begin with the claims themselves. After consideration of the express language of independent claim 1, we agree with Petitioner that the claims appear to be directed largely to applications of mathematical formulas and algorithms in the field of animal valuation, which would support Petitioner's proffered fundamental concept argument.

By contrast, independent claim 1 does not recite any of the above words sought to be added by Patent Owner. For example, concerning "dynamically" and "on-demand," while Patent Owner does identify some claim limitations arguably supporting their positions that the articulated fundamental concept should include "dynamically," and "on-demand," we are unpersuaded that any of "sale group," "genetic merit interface," determining "relative market value," or outputting a "genetic merit scorecard" are related to either "dynamic" or "on-demand" in a manner sufficient to require alteration of the aforementioned fundamental concept. For example, being "dynamic" in this context implies that the output responds automatically to changes in underlying data. Presumably the underlying data

would change based on user input in the "genetic merit interface," however, independent claim 1 does not provide any indication that any input from the "genetic merit interface" is processed automatically. In another example, being "on-demand" implies that information is displayed at the request of a user. Presumably the outputting of a "genetic merit scorecard" limitation supports this position, however, we are unable to identify anything in the outputting limitation that indicates displaying any information at the request of a user.

We determine similarly that none of the other terms to be added by Patent Owner are rooted sufficiently in the express claim language, and in any case, are peripheral to the above-identified fundamental concept, in that while they may represent variations of the fundamental concept, we are unpersuaded that they alter materially the fundamental concept itself. For example, being "dynamic," while perhaps placing some temporal aspects on "determining an animal's relative economic value based on its genetic and physical traits," does not alter the fact that independent claim 1 is fundamentally directed to "determining an animal's relative economic value based on its genetic and physical traits." A similar analysis is applicable to "sale group of feeder calves," "disparate sources," and "transforming."

The Specification further supports Petitioner's argument. The "Field of the Invention" section set forth in the '557 patent reads as follows:

> Embodiments of the present invention relate generally to the field of genetic quality and relative market value of livestock. More specifically, embodiments of the present invention facilitate an owner or potential buyer of one or more sale groups of livestock to evaluate the relative market value of the sale groups based on predictions derived from genetic merit estimates of the herd.

Ex. 1001, 1:23–29. The "Description of Related Art" section that follows delves heavily into problems associated with determining what the actual value of the

livestock is, and more specifically what premium or discount the livestock should command based on these desired genetic merits. Ex. 1001, 1:47–49. The first three sentences of the "Summary" section then read as follows:

> The Applicants recognize the importance of determining relative market value of a sale group or a group of animals offered for sale from a livestock operation. Various embodiments of methods and apparatus for determining relative market value of a sale group are provided herein. Exemplary embodiments of the present invention include an online genetic merit scorecard system.

Ex. 1001, 2:6–12. Based on the above cited portions of the '557 patent, we determine that the Specification supports heavily Petitioner's proposed fundamental concept. The unambiguous disclosure in the Specification as to the nature of the invention indicates to us that Petitioner has not over-generalized here.

Given the fundamental concept of "determining an animal's relative economic value based on its genetic and physical traits," we are persuaded by Petitioner's assertion that this concept is a "'fundamental economic practice . . . long prevalent in our system of commerce,'" or "'a fundamentally necessary and decades old principle,'" or a "'building block of human ingenuity.'" Pet. 31–32. Our determination is supported by our finding that the "Description of Related Art" is replete with examples of prior attempts at "determining an animal's relative economic value based on its genetic and physical traits." *See e.g.*, Ex. 1001, 1:31–2:2. Our determination is supported further by Dr. Spangler's representation that, among other factors, "valuing an animal based on its physical traits and lineage has been routine for centuries – likely millennia." Ex. 1015 ¶ 52. Patent Owner challenges the fact that the aforementioned fundamental concept is any of "'fundamental economic practice . . . long prevalent in our system of commerce,'" an "'a fundamentally necessary and decades old principle,'" or a "'building block of human ingenuity'" (PO Resp. 60–64), however, Patent Owner's assertions are

misplaced as they are directed to Patent Owner's proffered narrower fundamental concept, a proffer we do not adopt for the reasons set forth above.

Given all this, we are persuaded that the aforementioned fundamental concept is closely akin to the patent-ineligible abstract ideas of "hedging" found in *Bilski* and "intermediated settlement" found in *Alice*. Thus, we determine that claims 1–20 are directed to a patent-ineligible abstract idea.

3. Whether Claims 1–20 Recite "Significantly More"

Given that the claims are directed to an abstract idea, Petitioner asserts that the claims fail to recite an inventive concept that recites "significantly more" so as to transform the otherwise patent-ineligible abstract idea into patentable subject matter. Most significantly, Petitioner asserts that the claims merely recite generic computer hardware that is used in a conventional manner, which has been found in *Alice* and other decisions by our reviewing courts as insufficient to transform an otherwise patent-ineligible abstract idea into patentable subject matter. Pet. 34–38. Patent Owner disagrees for several reasons. PO Resp. 64–69. We agree with Petitioner.

Specifically, we agree with, and are persuaded by, Petitioner's assertions that all computer recitations in the challenged claims are recitations to generic computer hardware used in a conventional manner, which are insufficient to impart patentability under *Alice*. For example, independent claim 1 recites the following computer hardware: "computer-implemented method"; "one or more processors"; and "electronic interfaces." We are unable to ascertain how the claims use these and other items of computer hardware in a manner other than their conventional generic use. For example, the Specification recites the following concerning the "processor": "[t]he processor can be any *commercially available* terminal processor, or plurality of terminal processors, adapted for use in or with the

computer **41** or system **401**." Ex. 1001, 28:35–37 (italics added). The balance of the paragraph then continues on to provide a seemingly exhaustive list of processors that are suitable for use in the invention, providing a strong indication that any conventional generic processor is acceptable for use in the claimed invention. The Specification then continues on in a similar fashion concerning "computer" and "non-transitory memory," and discloses the following concerning the Internet: "the graphical user interface 51 can be an Internet website, accessible by a communications network . . . and one or more graphical user interface input components *as known and understood by those skilled in the art*." Ex. 1001, 30:61–67 (emphasis added). The story is no different for "database" (Ex. 1001, 35:29–39) and "genetic merit interface" (Ex. 1001, 29:57–30:1). We are unpersuaded that there is any indication, either in the claims or the Specification, that any of the recited computer hardware is used in a manner other than their conventional generic use, and, thus, they are insufficient to impart patentability under *Alice*.

Patent Owner asserts that the claims are confined to not just valuations of animals generally, but feeder calves. Patent Owner's assertions are misplaced, for as set forth above in our construction of "sale group," the claims are not restricted to "feeder calves." Indeed, we note that none of the claims recite either of "feeder" or "calves."

Patent Owner asserts further that the claims impose the following "significantly more" requirements:

> (a) the relative market value of the sale group, as a whole, be determined (unlike Selection Indices which, at best, evaluate individual animals); (b) the relative market value is tailored to each interested buyer based on their own unique circumstances (i.e., the relative market value may change depending on the user); and (c) the sale group must be ranked, such that the user can determine how that sale group may

> compare to other sale groups (e.g., in terms of certain genetic attributes).

PO Resp. 66. However, we are unpersuaded that (a) valuing a group of animals is "significantly more" than valuing a single animal, (b) tailoring a price to a user is "significantly more," and (c) comparison shopping is "significantly more," whether taken in succession or as a whole. Indeed, these requirements appear to be routine parts of commerce involving the fundamental concept of "determining an animal's relative economic value based on its genetic and physical traits."

Patent Owner asserts additionally that the claimed invention does not merely recite the alleged abstract idea and say "apply it" on computer components, because the recited computer components are an integral part of rooting the invention in computer technology. Specifically, Patent Owner asserts that the claimed invention involves novel technical software that "transforms genetic and performance information associated with the sale group into a dynamically-generated scorecard available to users on-demand." PO Resp. 67. We disagree, as the recitation of software in the claim, if any at all, is at a highly abstract level, in that the claims recite no more than taking in and outputting data, with no detail as to how that data is manipulated between input and output.[5] Absent such detail, we are unpersuaded that the claims are reciting any more than "applying to software" the fundamental concept of "determining an animal's relative economic value based on its genetic and physical traits," which is not "significantly more." As for "dynamically-generated scorecard available to users on-demand," our analysis of the same in the abstract idea prong of *Alice* is equally applicable here, namely, that

[5] "MR. COHN: Your Honor, the little calculator that's in Windows is a dynamic calculator. It's been there for 25, 30 years. You pull it up. You type in five times two and you hit equals and it spits the answer back to you on demand right there." Tr. 85:24–86:2.

we are unpersuaded that "dynamic" and "on-demand" are sufficiently related to the claims.

Patent Owner cites *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245, 1257 (Fed. Cir. 2014) in support of their position, but it is precisely because of the instructive nature of the problem-solution approach in that case that we arrive at our conclusion here. Specifically, *DDR Holdings* held that the "problem of retaining website visitors" involves a "claimed solution [that] is necessarily rooted in computer technology in order to overcome a problem specifically arising in the realm of computer networks." *DDR Holdings, LLC*, 773 F.3d at 1257. Such is not the case here, where the problem, as clearly articulated above in the aforementioned portions of the Specification, is "determining an animal's relative economic value based on its genetic and physical traits." We are unpersuaded that this problem, or its solution, involves or requires anything computer-related.

4. Conclusion

For the foregoing reasons, we conclude that Petitioner has shown, by a preponderance of the evidence, that claims 1–20 fail to recite statutory subject matter, and are, thus, unpatentable, under 35 U.S.C. § 101.

D. Claims 1–20 as Obvious over Wang and the Angus System

Petitioner contends that claims 1–20 are obvious over Wang and the Angus system. Pet. 54–78 (citing Exs. 1004, 1011–1014, 1015). Patent Owner disagrees. PO Resp. 27–58 (citing Exs. 1001, 1004, 1011–1014, 1016, 2014, 2022, 2024, 2033, 2034). Petitioner replies. Pet. Reply 12–23 (citing Exs. 1001, 1004, 1013, 1014, 1016–1022, 2005, 2036, 2037). Claims 1, 8, and 14 are independent.

1. Whether the Angus System is Prior Art

Petitioner provides the following evidence in support of "the Angus system": Declaration of Ms. Ginette Kurtz ("Kurtz Decl."; Ex. 1011);[6] Declaration of Dr. Dan Moser ("Moser Decl."; Ex. 1012); Printout from Angus's website, 2014 ("Angus 1"; Ex. 1013); Printout from AngusSource website, 2010 ("Angus 2"; Ex. 1014). In its Reply, Petitioner did not provide or identify any additional evidence concerning "the Angus system."

Patent Owner asserts that Petitioner has not met its burden of showing that the Angus system is prior art. PO Resp. 27–35. Specifically, Patent Owner asserts that Petitioner has not shown that Exhibits 1013 and 1014 provided sufficient corroboration for the statements made in the Declarations of Ms. Kurtz and Dr. Moser that the Angus system is prior art. All statements made by witnesses, and the underlying evidence corroborating those statements, are evaluated under a "rule of reason" framework. *Cf. Fleming v. Escort Inc.*, 774 F.3d 1371, 1376–77 (Fed. Cir. 2014) (citing *Sandt Tech., Ltd. v. Resco Metal & Plastics Corp.*, 264 F.3d 1344, 1350 (Fed. Cir .2001)) (in an analogous priority of invention context, oral testimony and corroborative evidence is "evaluated under 'the rule of reason,' whereby 'all pertinent evidence is examined in order to determine whether the [declarant's] story is credible'").

At the outset, we note that certain factors weigh in favor of Petitioner. Most prominently, we find that Ms. Kurtz and Dr. Moser are not related to the real party-in-interest for Petitioner, the American Simmental Association. Both Dr. Moser

[6] In the intervening period between Ms. Kurtz's Declaration and deposition, Ms. Kurtz changed her name to Ms. Gottswiller. PO Resp. 28; Ex. 2033, 6:3–15. For the purposes of consistency and clarity, we will refer only to Ms. Kurtz, as that name was introduced earlier in time in the proceeding, and the Declaration is in the name of Ms. Kurtz.

and Ms. Kurtz declare that they are affiliated with the American Angus Association, and no argument or evidence has been advanced that the American Angus Association is related to the American Simmental Association. Pet. 1; Ex. 1011 ¶ 1; Ex. 1012 ¶ 1. Accordingly, for this reason, in the overall "rule of reason" framework, we accord more weight to the testimony of Ms. Kurtz and Dr. Moser than we would an interested party. *See Finnigan Corp. v. Int'l Trade Comm'n*, 180 F.3d 1354, 1369 (Fed. Cir. 1999) ("the level of interest of the testifying witness is an important consideration when such testimony is offered to corroborate another witness's testimony.")

Of course, even testimony of disinterested parties requires corroboration. *See Finnigan*, 180 F.3d at 1369 ("corroboration is required of any witness whose testimony alone is asserted to invalidate a patent, regardless of his or her level of interest.") To that end, Petitioner has provided Exhibits 1013 and 1014 to corroborate the content of the Declarations of Ms. Kurtz and Dr. Moser, each of which we examine in turn in the context of whether or not the Angus system is prior art. And in that context, we note that neither party disputes that the relevance of Dr. Moser's Declaration is minimal in this regard, as Dr. Moser's Declaration, on its face, does not set forth any facts concerning whether or not the Angus system is prior art, deferring such considerations to Ms. Kurtz. *See generally* Ex. 1012; Ex. 2018, 34:17–35:10, 50:21–51:7. Accordingly, our analysis of this issue will be confined to whether or not Exhibits 1013 and 1014 corroborate sufficiently the testimony of Ms. Kurtz concerning whether or not the Angus system is prior art, specifically, her testimony in paragraphs 4 and 6.

We begin with Exhibit 1013. The primary testimony of record concerning any date for Exhibit 1013 is the following: "Attached hereto as Attachment B is a document which includes printouts of an example electronic pedigree available

through Angus's website ('Angus 1'). Although these printouts were generated in 2014, I am personally aware that electronic pedigrees having this layout and information-type have been available online via the Angus website since November 25, 2009." Ex. 1011 ¶ 4. Examining Exhibit 1013 in detail, we note that the only date listed is October 21, 2014, which is after the filing date of the '557 patent. Accordingly, based on the above, we determine that Exhibit 1013 is weak corroborative evidence of Ms. Kurtz's testimony that the content of Exhibit 1013 was available since November 25, 2009, or at least prior to the earliest possible priority date listed on the front of the '557 patent. Ex. 1011 ¶ 4.

In contrast to Exhibit 1013, Exhibit 1014 includes several dates, of which the most relevant are a revision date of March 10, 2010, and an indication that information listed in the document is for "[c]attle to be sold 06/08/2011." Ms. Kurtz declares, concerning Exhibit 1014, that "[t]he revision date is the date on which Angus, through AngusSource, began providing electronic marketing documents to the public which have the same form, layout, and data as shown in Angus 2. I am personally aware of this fact." Ex. 1011 ¶ 6. On its face, Exhibit 1014 provides some corroborative evidence that the document and the information it contains was available online at least as early as June 8, 2011, which is before the earliest possible priority date.

When we evaluate Exhibit 1014 in light of all the evidence, however, we determine that its corroborative value is compromised by a variety of factors, to the point where we determine that it does not provide sufficient corroboration for Ms. Kurtz's testimony that the document and the information it contains was available online at least as early as June 8, 2011. As an initial matter, we find that Exhibit 1014 was generated after every effective date. Ex. 2033, 57:7–58:6 (Ms. Kurtz testified, concerning Exhibit 1014, that "[i]t was actually printed last year is when I

sent those to counsel.") We find further that in attempting to make sense of the dates of the various documents, Ms. Kurtz had to consult the "IS department," which also weighs against her testimony that she was personally aware that "[t]he revision date is the date on which Angus, through AngusSource, began providing electronic marketing documents to the public which have the same form, layout, and data as shown in Angus 2." Ex. 1011 ¶ 6; Ex. 2033, 27:14–28:2. We find additionally that changes were made at various times to the website on which Exhibit 1014 resides, and there is no definitive evidence presented in this proceeding as to which changes were made at which time. Ex. 2033, 28:8–31:6, 45:14–17, 46:1–47:7.

To be sure, we find Ms. Kurtz to be credible, in that after reviewing all of the deposition testimony, we find that she was honest and sincere in trying to provide the most accurate information possible. The problem, however, is that her statement in the Declaration at paragraph 6, that she was personally aware that Exhibit 1014 existed in its exact form prior to any possible date, is in conflict with her testimony on cross-examination that she had to consult the "IS department" concerning the mechanics of the dates printed in Exhibit 1014, and that the format of Exhibit 1014 may have been altered between any possible priority date and the time that Exhibit 1014 was printed.

Accordingly, given the weak corroborative value of Exhibit 1013, and the now-discounted corroborative value of Exhibit 1014, we conclude that Exhibits 1013 and 1014, collectively, do not constitute sufficient evidence to corroborate the Declaration of Ms. Kurtz that the Angus system is prior art.

2. Effect of Determination that the Angus System Is Not Prior Art

Given our above determination that the Angus system is not prior art, at first glance, this would appear to be fatal to Petitioner's obviousness case, as all of

claims 1–20 are challenged over a combination of Wang and the Angus system. Certainly, for claim limitations that Petitioner relied exclusively on the Angus system, without any mention of Wang, Petitioner has not met its burden, and no further analysis of the relevant claims is necessary. Most prominent among those are dependent claims 7, 13, and 20, of which Petitioner's claim chart for dependent claim 7 is shown below.

7. The computer-implemented method of claim 1,	
[7.1] wherein the genetic merit scorecard further includes one or more of:	
[7.1.1] documentation of calf management practices associated with the sale group, and source and age identification of the sale group through an USDA approved process positioned to be readily accessible to a user of the one or more electronic interfaces.	**Angus System**: *See* Angus 2, "Producer Comments" section (Calf management practices associated with the sale group on scorecard.)

Pet. 59. We are unpersuaded that Petitioner has shown, by a preponderance of the evidence, that claims 7, 13, and 20 are obvious in view of Wang and the Angus system.

When we consider the claim charts of the Petition for the other claims, however, we see that Petitioner's use of the Angus system is plausibly set forth in the alternative. The most prominent example of this is the "genetic merit scorecard" limitation recited in independent claim 8, for which Petitioner's claim chart is shown below.

[8.3.1] the genetic merit scorecard including the relative market value and one or more rankings of genetic merits of the sale group.	**Wang** ¶ 0014 – "A computer executable program capable of simultaneously evaluating the data in all databases provided and producing as program output estimated breeding values (EBVs) for each trait and for each individual animal in the population for each trait individually and in combination and of ranking the animals according to their respective EBVs." **Wang** ¶ 0072 – "Moreover, the methods and systems provided allow the animals in the population to be ranked according to their EBV for a given trait or group of traits." **Angus System** – Genetic merit scorecard. (Angus 1, Angus 2.)

Pet. 61. For the aforementioned limitation, Petitioner is plausibly relying on both Wang and the Angus system. Accordingly, even though the Angus system is removed from consideration, we determine that Petitioner can still rely on Wang alone for this limitation.

To be sure, if Wang is determined to be missing any element of the relevant claim limitation, *and Petitioner has not provided any explicit analysis for modifying Wang to meet that element that does* ***not*** *depend on the Angus system*, Petitioner has not met its burden. Insofar as Petitioner did provide such explicit analysis in the Petition, however, Patent Owner was on notice that the alternative of relying on Wang alone was a possibility, and so we analyze remaining claims 1–6, 8–12, and 14–20 with the above considerations in mind.[7]

[7] We discern that Patent Owner noted this possibility in providing the following section heading: "Wang and the Angus System, **Taken Alone or in Combination**, Fail to Disclose All Elements of the Challenged Claims." PO Resp. 40 (emphasis added).

3. Petitioner's Analysis of Claims 1–6, 8–12, and 14–19 in view of Wang Alone

Independent claim 8 recites "[a] computer-implemented method to determine relative market value of a sale group." Petitioner cites Wang for disclosing methods implemented on a computer for determining a relative economic value of animals. Pet. 59 (citing Ex. 1004 ¶ 11). Independent claim 8 recites further:

> generating a genetic merit interface to display at one or more electronic interfaces, the genetic merit interface allowing an input of a plurality of genetic merit estimates associated with the sale group;
>
> determining, by one or more processors, relative market value and one or more rankings of genetic merits of the sale group responsive to the plurality of genetic merit estimates from the genetic merit interfaces[.]

Petitioner cites Wang for disclosing inputting pedigree, phenotypic, and molecular genetic metrics for a breeding population, and ranking animals based on those metrics. Pet. 59–60 (citing Ex. 1004 ¶¶ 11, 67, 72, 92, 109, 126, Fig. 2).

Independent claim 8 recites additionally outputting the aforementioned information on a genetic merit scorecard. Although Petitioner appears to primarily cite the Angus system for disclosing the genetic merit scorecard (Pet. 60–61, 71–74 (citing Exs. 1013, 1014, 1015)), Petitioner also cited paragraphs 14 and 72 of Wang in the claim charts, mentioned paragraphs 11, 67, and 121 of Wang in connection with related limitations of independent claim 8, and in a footnote asserted the following:

> Petitioner notes that Wang actually discloses the outputting of relevant market values and rankings thereof, which is certainly synonymous with a "scorecard." However, for the avoidance of doubt, Petitioner has also utilized the Angus System for its scorecard to build on the Examiner's previous use of the Wang reference.

Pet. 71 (footnote 11). As set forth above, we construe "genetic merit scorecard" as "visual display of genetic merit information." Wang discloses the following:

> User interface considered to be useful for the various aspects of this embodiment of the invention are configured so as to be coupled with the computer so as to allow the user to instruct the computer to access the available databases and allow the computer program to used [sic] the computer's processor to generate, as output their individual estimated breeding value and/or one or more rankings of the animals in the population.

Ex. 1004 ¶ 11.

> A user interface including data input and retrieval systems, where the user interface is coupled to the computer and configured to allow the user to instruct the computer to access any combination of the available databases and use the computer program to generate the output rankings and individual animal estimated breeding values.

Ex. 1004 ¶ 14. Accordingly, we discern that Petitioner is asserting that the above-cited portions of Wang disclose, at a minimum, a visual display of genetic merit information. Petitioner provides similar analyses for claims 1–6, 9–12, and 14–19. Consequently, our findings in regard to the prior-art status of the Angus System are not dispositive of these claims.

4. Patent Owner's Assertion of Non-Analogous Art

Patent Owner asserts that Wang and the claimed invention are non-analogous art because Wang is directed to breeding of bulls while the claimed invention is directed to feeder calf production. PO Resp. 35–40 (citing Exs. 1001, 1004, 1013, 1013, 2022, 2024). In support, Patent Owner cites extensively to the Declaration of Dr. Brent Woodward (Ex. 2022 ¶¶ 79–81) and the Declaration of Dr. Bruce Golden (Ex. 2024 ¶¶ 25, 26, 36–41, 45, 60, 77). We disagree, largely because Patent Owner's assertions are misplaced. Most of their assertions, and the testimony of Dr. Woodward and Dr. Golden, rest on the premise that the claimed invention is directed to feeder calf production. None of the independent claims,

however, recites any of "feeder," "calf," or "production"; in fact, they do not recite any particular animal at all.[8] Instead, for the same reasons as set forth above concerning the fundamental concept of the claimed invention for the purposes of Section 101, we determine that the field of the claimed invention is actually "determining an animal's relative economic value based on its genetic and physical traits." When we substitute this actual field of the claimed invention for Patent Owner's proffered one, we determine that Patent Owner's assertions and evidence concerning the distinction between breeding of bulls and feeder calf production are mostly irrelevant, and any remaining assertions that are still applicable are unpersuasive.

Specifically, a reference is analogous art to the claimed invention if: (1) the reference is from the same field of endeavor as the claimed invention (even if it addresses a different problem); or (2) the reference is reasonably pertinent to the problem faced by the inventor (even if it is not in the same field of endeavor as the claimed invention). *See In re Bigio*, 381 F.3d 1320, 1325 (Fed. Cir. 2004). Under prong (1), we are unpersuaded that Wang and the claimed invention are in different fields. Wang discloses that it "relates generally to the field of improving genetic merit in animal species at both the individual animal and herd levels." Ex. 1004 ¶ 3. As noted above, the claimed invention is directed to "determining an animal's relative economic value based on its genetic and physical traits." Fundamentally, the two fields are almost identical in that they both are evaluations of genetic traits. While Patent Owner may assert that Wang is technically directed to "improving genetic merit" while the claimed invention is directed to "relative economic value of those merits," those are more accurately classified as applications of evaluations

[8] The only express animal recitation we were able to locate in the claims is "calf" in dependent claims 7, 13, and 20.

of genetic merit, and we are unpersuaded that the distinction is such that one of ordinary skill in one would have been unfamiliar with the other. Indeed, Patent Owner admits that Wang is directed to calculating estimated breeding values ("EBVs") and that:

> as Wang states, it is simply an extension of EBVs (i.e., **breeding values**) and can be used in a breeding program "to provide an evaluation of an **animal's value as a parent**." (Ex. 1004, ¶ [0115], [0125]; *see also* Ex. 2034, 24:24–25:9 ("Those [selection] tools for producers in the purebred industry would want to use them to select parents based on their genetic potential to **produce progeny that would be more profitable**.").)

PO Resp. 38–39 (emphases added). Thus, as admitted by Patent Owner, breeding and economic valuations are intermixed, supporting further our conclusion that Wang and the claimed invention are in the same field. *See* Ex. 1019 ¶¶ 9–10 ("It is common practice for 'seedstock' producers to sell some of their calves as feeder calves, and for commercial cow-calf producers to use 'seedstock' bulls to sire their feeder calves. (Ex. 1018, 51:4–53:6, 53:7–54:20, 55:5–56:10, 65:11–14.)").

Having established that Wang is analogous art under prong (1) from *Bigio*, we need not consider prong (2). Even if Wang, however, were not to qualify under prong (1), we observe that under prong (2), Patent Owner's assertions are even less persuasive. Wang discloses the following:

> Such a method would need to provide a means for **quickly and efficiently maximizing the usefulness of new understanding regarding the function of various genes and/or combination of genes**; while at thee [sic] same time optimizing the use of **phenotypic, genotypic (e.g. SNPs) and pedigree information**. This is particularly important in **traits where the phenotypes are difficult or expensive to measure** (e.g. feed intake or disease resistance/tolerance), traits that are measured late in or life or at the end of life (e.g., longevity or meat quality) or measurable only in one sex (e.g. milk yield, litter size or maternal or paternal calving case).

Ex. 1004 ¶ 5 (emphases added). The '557 patent discloses the following:

> [A] sale group of calves is valued on many attributes depending on the ultimate purposes for the calves. The top attribute for cattle are sold to be developed for slaughter (and not for breeding) are the tendency to stay healthy and the **genetic potential for growth, carcass merit, and feed efficiency**. Additionally, buyers of calves have considerable risk and uncertainty. They prefer to buy superior calves, but have **great difficulty assessing the genetic merit and future healthiness of the calves** at the time of purchase.

Ex. 1001, 1:38–47 (emphases added). We find that both are squarely directed to solving problems associated with difficulty in evaluating the genetic traits of animals. Furthermore, we find that the inputs and desired outputs associated with this problem are, at a minimum, overlapping. Given that, we are even more unpersuaded that an asserted distinction between "improving genetic merit" and "relative economic value of those merits" is sufficient to support Patent Owner's assertion that Wang and the claimed invention are non-analogous art.[9]

5. Patent Owner's Assertion Concerning "Sale Group"

Independent claims 1, 8, and 14 each recite "sale group." Patent Owner asserts that Wang does not disclose "sale group" because Wang does not actually mention the word "sale," "purchase," "buy," or "sell." Patent Owner's assertions are misplaced, as we construe "sale group" as "one or more animals for which a relative market value is determined." Petitioner cites Wang for disclosing a selection index, where "[t]he values for the selection index are empirically and/or subjectively determined by analyzing the market values for a given trait." Pet. 54–55 (citing Ex. 1004 ¶ 67). We are persuaded that this disclosure corresponds properly to the recited "sale group." Tellingly, Patent Owner, nor their experts,

[9] Although not dispositive, we note that the Examiner cited Wang during the prosecution of the '557 patent.

reference paragraph 67 of Wang in this portion of its Patent Owner Response. PO Resp. 40–43 (citing Ex. 1004 ¶¶ 6, 11, 14, 49, 72; Ex. 2022 ¶ 89).

Patent Owner may be asserting that just because a value is determined for one or more animals does not indicate that they are actually placed on sale. Such an assertion would be misplaced as, under the proper construction of "sale group," the act of determining a relative market value of the animal itself is sufficient, even if the animal is not actually placed on sale. Patent Owner may also be asserting that Wang only determines values for individual animals, and not for populations or herds of animals. Again, such an assertion would be misplaced, as a proper construction of "sale group" only requires determining a relative market value for one animal.

6. Patent Owner's Assertion Concerning the "Determining" Step

Independent claim 8 recites "determining, by one or more processors, relative market value and one or more rankings of genetic merits of the sale group responsive to the plurality of genetic merit estimates from the genetic merit interfaces." Independent claims 1 and 14 each recite similar limitations.

Patent Owner asserts that Wang does not disclose the aforementioned claim limitation, because Wang only provides a selection index and ranking of individual animals, and not for populations or herds of animals. PO Resp. 43–46 (citing Ex. 1001; Ex. 1004 ¶¶ 67, 68, 72, 121; Ex. 2022 ¶¶ 94, 96, 98–100; Ex. 2024 ¶¶ 41, 48, 62, 69–71; Ex. 2034, 4:4–9, 46:4–15). Patent Owner's assertions are misplaced, as "sale group" is properly construed as "one or more animals for which a relative market value is determined," which indicates that Wang's disclosure of determining a selection index and ranking for a single animal is sufficient.

Patent Owner asserts further that Wang does not disclose determining the "relative market value" of the sale group, because the selection index in Wang can

only be used to compare animals of the exact same breed. PO Resp. 46–50 (citing Ex. 1001; Ex. 1014; Ex. 2022 ¶¶ 31–36, 93, 101, 104; Ex. 2024 ¶¶ 30, 40, 41, 57, 60–62; Ex. 2033, 61:16–25, 62:1–14; Ex. 2034, 76:6–14). Patent Owner's assertions are misplaced, as we construe "relative market value" as "the market value of a sale group as compared to the market value of at least one other market group." Patent Owner does not dispute that two animals of the same breed can be compared using selection indices, which is sufficient to meet "relative market value."

Moreover, even if "relative market value" were construed to require allowing the ability to compare across breeds, we are unpersuaded that the selection indices of Wang would be insufficient. Specifically, Patent Owner asserts that because different breeds have different breed baselines, the resulting selection indices, which themselves are aggregations of expected breeding values, are not directly comparable. Patent Owner's assertions are misplaced. Wang discloses that relative values can be expressed in any "biological or economic units," and dollar values are used as an example for both expected breeding values and selection indices. Ex. 1004 ¶ 67. Two different selection indices that are each expressed in dollar values are directly comparable. Patent Owner may be asserting that the dollar values for different breeds are not a ***perfect*** comparison because different baseline values are used. Patent Owner has not identified any claim language, however, that requires a perfect comparison, and, indeed, the very nature of valuation is one where comparisons are subjective, and, thus, imperfect. The fact that selection indices would be expressed in the same units, and those same units are, by their very nature, directly comparable is enough to meet the recited determining of "relative market value."

Furthermore, even if a "more comparable" comparison was required, we note the similarity in formulas disclosed in Wang and the '557 patent, respectively, for calculating selection indices and relative market value. In Wang, the formula is:

$$I = (0.4)(EBV_{bw}) + (2.0)(EBV_{Ip})$$

Ex. 1004 ¶ 67. In the above formula of Wang, I is "selection index," EBV_{bw} is "expected breeding value based on body weight)," and EBV_{Ip} is "expected breeding value based on lead percentage." In the '557 patent, the formula is:

Relative market value=α+(β1×Weaning EPD)+(β2×Post Weaning Gain EPD)+(β3×Post Weaning Gain EPD squared)+(β4×Marbling EPD)+(β5×Marbling EPD squared)+(β6×Ribeye Area EPD)+(β7×Fat EPD)+(β8×Carcass Weight EPD)+(β9×Feed Intake EPD)+(β10×Breed effect)

Ex. 1001, 20:37–43. Here, α is the intercept, which for the purposes of our analysis is essentially irrelevant, the various βs are economic weighting factors, and EPDs are "expected progeny differences." As such, the formulas are functionally identical. In order to calculate a selection index or relative market value, one does a summation of "expected breeding values" or "expected progeny differences," with each "expected breeding value" or "expected progeny differences" multiplied by a coefficient. And given the relatively high level of ordinary skill articulated above, we are persuaded that one of ordinary skill at that level would have been able to compensate for any differences between "breeding values" and "progeny differences," especially when both were known to be able to be able to be expressed in dollar values (Ex. 1001, Figs. 6, 7A, 7B; Ex. 1004 ¶ 67), and, using rudimentary mathematics, would appear to be adaptable and scalable to any number of animals in any number of different breeds or species. *See also* Ex.

1019 ¶ 18 (citing Ex. 1023) ("[m]ulti-breed EPDs and Indices aside, even breed-specific EPDs can be converted from one breed base to another").

7. Patent Owner's Assertion Concerning the "Outputting" a "Genetic Merit Scorecard"

Independent claim 8 recites

> outputting to one or more electronic interfaces a genetic merit scorecard for the sale group responsive to determining the relative market value and one or more rankings of genetic merits of the sale group, the genetic merit scorecard including the relative market value and one or more rankings of genetic merits of the sale group.

Independent claims 1 and 14 each recite a similar claim limitation.

Patent Owner asserts that Wang does not disclose outputting this genetic merit scorecard, because Wang does not depict expressly what its program output would look like. PO Resp. 50–51 (citing Ex. 1001; Ex. 1004 ¶¶ 3, 14; Ex. 2022 ¶ 109). Although we agree with Patent Owner that Wang does not disclose expressly the exact format of the program output, we disagree that this omission indicates that Wang does not disclose outputting a genetic merit scorecard. As set forth above, we construe "genetic merit scorecard" as "visual display of genetic merit information" which, when placed in the context of the "outputting" limitation, becomes "visual display of relative market value and one or more rankings of genetic merits," which does not require any particular format for the output. Wang discloses the following:

> User interface considered to be useful for the various aspects of this embodiment of the invention are configured so as to be coupled with the computer so as to allow the user to instruct the computer to access the available databases and allow the computer program to used [sic] the computer's processor to generate, as **output their individual estimated breeding value and/or one or more rankings of the animals in the population**.

Ex. 1004 ¶ 11 (emphasis added).

> A user interface including data input and retrieval systems, where the user interface is coupled to the computer and configured to allow the user to instruct the computer to **access any combination of the available databases and use the computer program to generate the output rankings and individual animal estimated breeding values**.

Ex. 1004 ¶ 14 (emphasis added). We find these descriptions of "output" in a "user interface" teach the visual display of values and rankings. While in theory, the output in Wang could be just a computer-to-computer output that is never visible to the user, we are unpersuaded that such a position is credible, and even if it were, are persuaded that it would have been a modification inescapably apparent to one of ordinary skill viewing the above-cited portions of Wang, in the context of obviousness, in 2013.

Patent Owner asserts that Wang does not disclose the "outputting" limitation being one of several sequentially cascading steps beginning with the recited "generating" step which receives "genetic merit estimates." PO Rep. 53–55 (citing Ex. 1001; Ex. 2022 ¶¶ 116, 117). We disagree. Fundamentally, we are unclear how the output ranking and breeding values of Wang could be generated without first having the expected breeding values inputted into the database of Wang's system.

Insofar as Patent Owner may be asserting that inputting "genetic merit estimates" into the system results in an output of a genetic merit scorecard *without further input from the user*, we disagree, as that is not commensurate in scope with the express language of the independent claims. As noted by Patent Owner, the "generating," "determining," and "outputting" steps of the independent claims must be performed in sequence, however, there is no indication that any of those steps must be performed without any intermittent human intervention.

8. Secondary Considerations

Patent Owner asserts that even if Wang discloses or suggests every limitation recited in the claims, certain objective evidence of secondary considerations weighs against a determination of obviousness. PO Resp. 69–74. We disagree, largely because we determine Patent Owner's multiple theories of secondary considerations to be cursory, without adequate explanations and factual bases as to how any of them demonstrate what Patent Owner says they demonstrate.

For example, Patent Owner asserts that Petitioner's copying of the patented tool supports their assertion of non-obviousness. PO Resp. 69–71. Patent Owner's assertions are misplaced, because we are unpersuaded Patent Owner has shown copying. As an initial matter, Patent Owner asserts that Petitioner copied its Reputation Feeder Cattle tool. Patent Owner, however, has not provided any explanation, in its assertions concerning secondary considerations, as to what exactly the Reputation Feeder Cattle tool is, and how it is relevant to the claimed invention. Earlier in the Patent Owner Response, Patent Owner does refer to a "revolutionary technological tool (which it called '**Reputation Feeder Cattle**')," and then asserts in a footnote that "[t]he Reputation Feeder Cattle tool embodies the invention described in the '557 Patent. (Ex. 2002, ¶ 2; Ex. 2003, ¶ 3)." PO Resp. 18–19. This, however, is merely a conclusory assertion, without any underlying explanatory or factual analysis as to the relationship between the Reputation Feeder Cattle tool and the claimed invention, and, thus, is entitled to little weight. The citations to Exhibits 2002 and 2003 do not assist Patent Owner in this regard, as they merely recite that the Declarants are named-inventors of various patents and patent applications, including the '557 patent.

We note in the ’557 patent a “Reputation Feeder Cattle” program, which refers to Figures 7A and 7B (Ex. 1001, 31:66–32:7). That “program,” however, appears not to be a “software program,” but a livestock certification program in the theme of “a planned, coordinated group of activities, procedures, etc., often for a specific purpose, or a facility offering such a series of activities.” http://www.dictionary.com/browse/program (accessed June 9, 2016). The relationship between this certification program and the claimed invention, however, is unclear and undeveloped.

Moreover, Patent Owner then asserts that Petitioner’s “Feeder Profit Calculator includes each and every element of Patent Owner’s tool as embodied, for example, in Claim 16 of the ’557 Patent.” PO Resp. 69 (citing Ex. 2020). There are several problems with this assertion. First, claim 16 in the ’557 patent is a dependent claim. Presumably based on the claim language in Exhibit 2020, Patent Owner meant to refer to independent claim 16 of the ’888 patent. This is problematic, however, as the language of independent claim 16 of the ’888 patent differs from the language set forth in any independent claim of the ’557 patent. While Patent Owner may be asserting that the differences between those claims are so inconsequential as not affect materially their analysis of Petitioner’s Feeder Profit Calculator and the claimed invention, we have no way of knowing if this is the case, because Patent Owner has not asserted provided such analysis or provided us evidence to evaluate independently the validity of that unmade assertion.

Which brings us to the next problem. Patent Owner has not provided any explanation or evidence, in its assertions concerning secondary considerations, as to the features of the Feeder Profit Calculator, other than to say it is covered by a claim of the ’557 patent. Putting aside the fact that the reference to Exhibit 2020 appears like an attempt to improperly incorporate arguments by reference (37

C.F.R. § 42.6(a)(3) ("[a]rguments must not be incorporated by reference from one document into another document"), when Exhibit 2020 is considered, it does not provide any details concerning the Feeder Profit Calculator, because the details of the Feeder Profit Calculator appear to be in "Exhibit E" of Exhibit 2020, which does not exist in the filed copy of Exhibit 2020. Accordingly, even when Exhibit 2020 is considered in full, Patent Owner is essentially asking the Board to find that the Feeder Profit Calculator is embodied by the claimed invention, without providing any factual basis for the Board to compare the Feeder Profit Calculator with the claimed invention. We decline to do so.

Earlier in the Patent Owner Response, Patent Owner does refer to the "'Feeder Profit Calculator" (the 'Competing Tool')." PO Resp. 20–22 (citing Exs. 2002, 2003, 2030). Neither this portion of the Patent Owner Response, however, nor Exhibits 2002 or 2003, provides any further details concerning the features of the Feeder Profit Calculator. Exhibit 2030 does finally provide some details, however, again, Patent Owner has not provided any analysis in the Patent Owner Response, or any other substantive paper, that analyzes the relationship between Exhibit 2030 and the claimed invention.

Patent Owner asserts that Petitioner's position that Patent Owner must actually prove infringement of a claim in order to show copying is incorrect, and cites *Wyers v. Master Lock Co.*, 616 F.3d 1231, 1246 (Fed. Cir. 2010) for the proposition that "copying requires evidence of efforts to replicate a specific product, which may be demonstrated through . . . access to the patented product combined with substantial similarity to the patented product." We agree. The problem, however, is that we are unpersuaded that Patent Owner has shown that its Reputation Feeder Cattle tool corresponds properly to the "patented product," or

that the Petitioner's Feeder Profit Calculator is "substantial[ly] similar to the patented product," for the reasons articulated above.

Patent Owner makes additional assertions concerning "long felt but unsolved needs," "praised by customers," and "commercially successful." PO Resp. 71–74. These are unpersuasive largely for the same reasoning set forth above with respect to copying, namely, that Patent Owner has not provided any explanation as to what exactly the Reputation Feeder Cattle tool is, and how it is relevant to the claimed invention. Accordingly, we are unable to evaluate properly, for example, the relevance to the claimed invention of the purported praised by customers, or the industry in general, set forth in the numerous Exhibits cited by Patent Owner. PO Resp. 72–73 (citing Exs. 2004, 2036–2043).

9. Conclusion

For the foregoing reasons, we are persuaded that Petitioner has shown, by a preponderance of the evidence, that claims 1–4, 8–12, 14–19 are obvious in view of Wang alone.

We are unpersuaded, however, that Petitioner has shown, by a preponderance of evidence, that dependent claims 7, 13 and 20 are obvious in view of Wang alone.

E. Patent Owner's Motion to Amend

Patent Owner requests, should independent claims 1 and 8 be determined to be unpatentable, cancellation of claims 1–13, and entry of substitute claims 21–31. PO Amend. 1–25 (citing Exs. 1001, 1003, 1004, 1013, 1014, 2002, 2003, 2018, 2022, 2024, 2027, 2034, 2045). Petitioner opposes the request. Pet. Resp. 1–25 (citing Exs. 1001, 1004, 1013–1014, 1016, 1017–1019, 1024–1027, 1028). Patent Owner replies. PO Reply 1–12 (citing Exs. 1001, 1004, 1017, 1019, 2022, 2024, 2049–2050, 2054).

1. Procedural Burdens

Patent Owner has the burden of proving patentability of a proposed substitute claim. *See Nike, Inc. v. Adidas AG*, 812 F.3d 1326, 1334 (Fed. Cir. 2015) ("[T]he Board permissibly interpreted [37 C.F.R. § 42.20(c)] as imposing the burden of proving patentability of a proposed substitute claim on the movant: the patent owner.") Accordingly, we determine, at a minimum, that Patent Owner has the burden of showing that (1) the substitute claims overcome all the grounds under which independent claims 1 and 8 were determined to be unpatentable, namely, 35 U.S.C. §§ 101, 103; and (2) its request meets all the procedural requirements concerning motions to amend set forth in our rules, *Idle Free Systems, Inc. v Bergstrom, Inc.*, Case IPR2012-00027 (PTAB June 11, 2013) (Paper 26) (informative), and *MasterImage 3D, Inc. v. RealD Inc.*, Case IPR2015-00040 (PTAB July 15, 2015) (Paper 42) (precedential). *See Microsoft Corporation v. Proxyconn, Inc.*, 789 F.3d 1292, 1307 (Fed. Cir. 2015) (opining that "we cannot say that the PTO has abused its discretion in choosing adjudication over rulemaking" in setting forth rules concerning motions to amend).

2. Whether Substitute Claims Are Patentable Under 35 U.S.C. § 101

Patent Owner asserts that substitute independent claims 21 and 27 meet the requirements of reciting statutory subject matter under 35 U.S.C. § 101. PO Amend. 11–16, 21–22; PO Reply 5–9. Specifically, Patent Owner asserts that insofar as there was any ambiguity that independent claims 1 and 8 recite statutory subject matter under either prong of *Alice*, substitute independent claims 21 and 27 remedy those ambiguities. After considering all arguments and evidence, we are unpersuaded that Patent Owner has met its burden concerning this issue.

Patent Owner asserts that substitute independent claim 21 is no longer directed to a "fundamental, longstanding economic practice," because "[i]t has not

been a longstanding practice to analyze and measure the relative market value and rank of feeder calves using genetic merit estimates associated with that sale group." PO Amend 11–12. As an initial matter, we are unclear as to how Patent Owner desires for its argument to be applied to the framework of *Alice*. Assuming that Patent Owner desires for it to be applied to the "abstract idea" prong of *Alice*, we determined above that the fundamental concept underlying independent claim 1 is "determining an animal's relative economic value based on its genetic and physical traits." Accordingly, we discern that Patent Owner asserts that the fundamental concept underlying substitute independent claim 21 differs from that set forth above for independent claim 1. The main differences we ascertain between the aforementioned fundamental concept and Patent Owner's assertions appears to be the addition of the words "feeder calves" and the deletion of the words "and physical." Accordingly, we assume that Patent Owner desires the fundamental concept underlying substitute independent claim 21 to be altered to "determining *feeder calves'* relative economic value based on its genetic ~~and physical~~ traits."

We are unpersuaded that the underlying fundamental concept is materially altered by the amendment advocated for by Patent Owner. Beginning with "feeder calves," "feeder calves" are still animals, and we are unpersuaded that Patent Owner has shown sufficiently that "determining a relative economic value based on [the] genetic and physical traits" of "feeder calves" differs materially from that of other animals, in that we are unclear as to how a relative economic value for any animal would be determined based on anything other than genetic and physical traits. To be sure, we acknowledge that in the entire universe "genetic and physical traits" for all animals, only a subset would be applicable to "feeder calves." That is true, however, for any animal. To that end, our analysis here is

largely similar to that set forth above concerning whether Wang and the claimed invention are analogous art.

Moreover, even if the fundamental concept were altered in that manner, we are unpersuaded that Patent Owner has shown sufficiently that "determining feeder calves' relative economic value based on its genetic and physical traits" is not a "fundamental, longstanding economic practice." Petitioner asserts, and we agree, that cattle have been sold for centuries (Pet. 31 (citing Ex. 1015 ¶ 52)), and we are unpersuaded that at least some of that cattle would not have been "feeder calves."

For the deletion of "and physical," we are unpersuaded that the fundamental concept should be altered in that manner. As an initial matter, Patent Owner does not identify any specific claim amendments that would justify such an alteration. When we consider the claim amendments themselves, it would appear that the references to "genetic merit estimates" may serve as a plausible basis for such an alteration, but independent claim 1 already recited "genetic merit scorecard" and "genetic merits," and so we are unclear as to how the addition of the word "estimates" justifies deletion of "and physical." Furthermore, Patent Owner has not provided any claim construction of "genetic merit estimates" that may clarify this confusion, which alludes to the more foundational problem with Patent Owner's assertion: that there is a sufficient difference between genetic traits and physical traits, such that focusing on the former to the exclusion of the latter would substantively alter the fundamental concept from one that is a "fundamental, longstanding economic practice" to one that is not. We disagree that it would.

Specifically, Patent Owner asserts the following:

> It has *not* been a longstanding practice to analyze and measure the relative market value and rank of feeder calves using genetic merit estimates associated with that sale group. (Ex. 2022, ¶ 135.) The prior art of record does not suggest that sale groups of feeder calves have

> ever been valued in such a way—let alone that it is ubiquitous. (Ex. 2022, ¶ 64.) Sale groups of feeder calves have instead typically been treated like a commodity, based on market averages, with prices tied to easily visible characteristics like fleshiness and weight. (Ex. 2022, ¶ 44; Ex. 2024, ¶ 47.)

PO Amend. 11–12; PO Reply 7–8. Essentially, we are unpersuaded that physical traits such as "easily visible characteristics like fleshiness and weight" are so readily divorced from genetic traits, as physical traits are often times merely physical manifestations of those genetic traits. We are, thus, further unpersuaded that a cattle buyer of antiquity, when evaluating the "fleshiness and weight" of a feeder calf, was not in fact evaluating the genetic traits of that feeder calf concerning "fleshiness and weight." Perhaps if substitute claim 21 recited claim language that expressly indicated only genetic traits that did not manifest in physical traits were to be considered, Patent Owner's proposed alteration would be persuasive in this regard. Absent such claim language or analysis, however, we are unpersuaded that the proposed deletion of "and physical" is warranted.

Patent Owner asserts further that substitute independent claim 21 does not "cover the general practice of determining the market value of animals." PO Amend. 12–15; PO Reply 7–9. Again, while not entirely clear how Patent Owner desires this assertion to be applied to the framework of *Alice*, we assume that Patent Owner desires for it to be applied to the first prong of *Alice*. Accordingly, based on the claim language specified at pages 12, 13, and 15, and the reference to *DDR Holdings*, we discern that Patent Owner asserts that the aforementioned fundamental concept should be altered to one rooted in computer technology. When we look at the added claim language, we identify two specific additional claim limitations that could plausibly support altering the aforementioned fundamental concept in the way desired by Patent Owner. Upon

evaluating those claim limitations, however, we are unpersuaded that the aforementioned fundamental concept should be altered in any way.

The first claim limitation is

> the remote server computer further accesses a plurality of remote databases in determining the relative market value and the one or more rankings of genetic merits, the plurality of remote databases including one or more first databases containing genetic information for a first breed of cattle associated with the sale group and one or more second databases containing genetic information for a second breed associated with the sale group.

When we strike out the computer-related terms, however, we are left with the following paraphrase: "in determining the relative market value and the one or more rankings of genetic merits, acquiring genetic information for a first breed of cattle associated with the sale group and genetic information for a second breed associated with the sale group." This is instructive for two reasons. One, even when striking out the computer-related terms, the resulting paraphrase is logical and purposeful. By contrast, the problem and solutions in *DDR Holdings* make no sense when the computer-related terms are removed. Second, the resulting paraphrase is a natural extension of the fundamental concept of "determining an animal's relative economic value based on its genetic and physical traits," in that in order to determine "an animal's relative economic value based on its genetic and physical traits," the genetic and physical traits must first be acquired. Accordingly, the paraphrase informs, and, thus, we are unpersuaded that there is a need to alter, the fundamental concept articulated above.

The second claim limitation is

> dynamically generating, by one or more processors at the remote server computer, the genetic merit scorecard for the sale group responsive to determining the relative market value and one or more rankings of genetic merits of the sale group; and outputting to the one or more electronic interfaces at the first computer, responsive to the remote

> server computer generating the genetic merit scorecard, the genetic merit scorecard including the relative market value and one or more rankings of genetic merits of the sale group.

Our above analysis even more applicable here, as after striking out the computer-related terms, all we are left with is the aforementioned fundamental concept.

Insofar as Patent Owner intends to confer significant weight on the term "dynamically," "dynamically" may appear to add a temporal and/or methodological restrictions to the "generating" step, however, given that Patent Owner did not provide any claim construction of "dynamically," we are unclear as to the nature of those temporal and/or methodological restrictions. Absent that analysis, we are unpersuaded that addition of "dynamically" alters appreciably our above determinations.

Patent Owner asserts further the following:

> Claim 21 also cites "significantly more" than an abstract idea. As a preliminary matter, claim 21 is confined to a particular useful application: analysis and measurement of the market potential (including value and rank) of sale groups of feeder calves that are available for purchase on the marketplace. (Ex. 2022, ¶¶ 70–71, 135.) This alone represents an improvement in the technical field because all prior art methods to value such animals were based on commodity-type pricing tied to easily visible characteristics. (Ex. 2022, ¶ 37; Ex. 2024, ¶ 47.)

PO Amend. 13; PO Reply 7–8. Patent Owner appears to be distinguishing "pricing a commodity" from "determining a relative market value." We are unpersuaded there is a difference, and certainly not a difference sufficient to constitute "significantly more."

Patent Owner asserts additionally that substitute independent claim 21 is necessarily rooted in computer technology, like that recited in *DDR Holdings* and other cases, because "[t]he software transforms these results into dynamically-generated scorecards available on demand by users interested in purchasing the

sale group, with the results and each scorecard able to be tailored to each individual user depending on their circumstances." PO Amend. 14–16. As an initial matter, for the reasons set forth *supra*, we are unpersuaded substitute independent claim 21 is necessarily rooted in computer technology. Of course, the recitation of computer components performing operations requires programming, but the added claim limitations are non-specific as to how any of the "transforms," "dynamically," and "tailoring" occurs; it merely recites an input and a result. Absent more specificity as to how the input arrives at the result, we are unpersuaded that the computer technology that performs the operation is anything more than generic, and, thus, not "significantly more" for the reasons outlined above.

Patent Owner makes similar assertions, as set forth above for substitute independent claim 21, for substitute independent claim 27. Although substitute independent claim 27 appears to make substantially more amendments relative to independent claim 8, when those amendments are analyzed substantively, Patent Owner's assertions concerning substitute independent claim 27 are unpersuasive for the same reasons as set forth above for substitute independent claim 21. Specifically, we are unpersuaded that any of the claim amendments relative to independent claim 8, such as "feeder cattle," "sires," "dams," and "national average market value," warrant altering the proffered fundamental concept of "determining an animal's relative economic value based on its genetic and physical traits." While "feeder calves," "sires," "dams," and "national average market value," may be more specific applications of the proffered fundamental concept, we are unpersuaded that they do not fall under the rubric of "determining an animal's relative economic value based on its genetic and physical traits," or recite anything "significantly more." *See OIP Techs. Inc. v. Amazon.com, Inc.*, 788 F.3d

1359, 1361–63 (Fed. Cir. 2015); *Graff/Ross Holdings LLP v. Fed. Home Loan Mortg. Corp.*, 892 F. Supp. 2d 190 (D.D.C. 2012), *aff'd per curiam* at 604 Fed. Appx. 930 (Fed. Cir. 2015). For example, "feeder calves," "sires," and "dams" are all animals, and "national average market value" is a basis that can be used to determine a relative economic value. *See also Am. Simmental Ass'n v. Leachman Cattle of Colo., LLC*, Case PGR2015-00005, slip. op at 34–37 (PTAB June 14, 2016) (Paper 56) (analysis of substitute claim 26).

3. Whether Patent Owner Met Certain Procedural Requirements Concerning Motions to Amend

Petitioner asserts that Patent Owner did not meet certain procedural requirements, and, thus, asserts that the Motion to Amend should be denied. Pet. Resp. 3–10. While it is unnecessary to opine on all of Petitioner's assertions, as Patent Owner has not met its burden of showing the patentability of substitute claims 21–31 in view of 35 U.S.C. § 101, we determine that some of Petitioner's assertions merit discussion.

Petitioner asserts that Patent Owner was too ambitious in the number of substitute claims and claim amendments it pursued, and in doing so, failed to properly construe new claim terms, as required under *Idle Free Systems, Inc. v. Bergstrom, Inc.*, Case IPR2012-00027, slip op. at 7 (PTAB June 11, 2013) (Paper 26) (informative) ("A patent owner should identify specifically the feature or features added to each substitute claim, as compared to the challenged claim it replaces, and come forward with technical facts and reasoning about those feature(s), including construction of new claim terms, sufficient to persuade the Board that the proposed substitute claim is patentable over the prior art of record, and over prior art not of record but known to the patent owner."). For example, Petitioner asserts that "environmental conditions," as recited in substitute independent claim 27, requires an express construction because while the '557

patent may literally recite "environmental conditions" (Ex. 1001, 12:58–61), the subsequent discussion in the '557 patent is to "[e]nvironmental factors like weather, parasites and stress" (Ex. 1001, 12:63–65), and so without an express construction, it is unclear (1) whether "environmental conditions" and "environmental factors" are the same, and (2) whether the scope of "environmental conditions" is limited to "weather, parasites and stress," and if not, what additional conditions are included. We disagree with Petitioner that Patent Owner's Motion to Amend should be denied because Patent Owner did not provide an express construction of "environmental conditions." As identified by Patent Owner, the '557 patent recites expressly "environmental conditions," and while the subsequent discussion in the '557 patent does used the word "factor" instead of "condition," we are persuaded that the proximity of terms and the open-ended nature of the discussion indicates sufficiently that "environmental conditions" includes but is not limited to "weather, parasites and stress," and that such a construction would have been apparent to one of ordinary skill, even without an express construction by Patent Owner.

By contrast, we are persuaded by Petitioner's assertion that "simulation of rankings," as recited in substitute independent claim 27, does require an express construction, or at least an explanation as to its meaning, and that none was provided by Patent Owner. Specifically, the relevant portion of the claim limitation reads

> activate the genetic merit interface to cause the genetic merit scorecard to display on the one or more electronic user interfaces responsive to transmission of the data representing the genetic merit scorecard, the genetic merit scorecard including a simulation of rankings of genetic merits of the sale group and the relative market value of the sale group.

Patent Owner has not identified, and we are unable to locate independently, any recitation in the '557 patent of "simulation of rankings." In the '557 patent, we

have been able to identify several references to "simulation models" and "economic outcomes" or "relative values." *See* Ex. 1001, 7:37–39, 8:7–10, 8:35–38, 8:61–63, 14:55–58, 17:55–58, 17:61–64, 19:12–16, 19:55–60, 21:19–21, 26:13–15, 44:1–17. Those references, however, do not appear to have anything to do with "simulation of rankings." Although we are cognizant that a patent specification does not need to recite word-for-word a claim limitation, when there is no clear relationship between claim language and the patent specification, it is incumbent on Patent Owner to provide either a claim construction, or explanation, to bridge the apparent gap. By failing to do so here, we agree with Petitioner that Patent Owner has not met its procedural burden concerning the patentability of substitute independent claim 27.

4. Conclusion

For the foregoing reasons, we conclude that Patent Owner has not met its burden of showing that substitute claims 21–31 are patentable.

F. Patent Owner's Motion to Exclude

Patent Owner seeks to exclude (1) Exhibits 1013 and 1014, and (2) Exhibits 1024, 1026, and 1027. PO Mot. 1–15; PO Mot. Reply 1–5. For Exhibits 1013 and 1014, Patent Owner's assertions appear to go more to the weight to be given the Exhibits as opposed to their admissibility. In any case, even when Exhibits 1013 and 1014 were considered, we determined above that Petitioner had not met its burden of showing that the Angus system was prior art. Accordingly, Patent Owner's request is dismissed as moot.

For Exhibits 1024, 1026, and 1027, the Board did not rely on any of these Exhibits in rendering its determinations. Accordingly, Patent Owner's request here is also dismissed as moot.

III. CONCLUSION

Petitioner has demonstrated, by a preponderance of the evidence, that claims 1–20 of the '557 patent are unpatentable. Patent Owner's Motion to Amend is *denied*. Patent Owner's Motion to Exclude is *dismissed* as moot.

IV. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that claims 1–20 of the '557 patent are held unpatentable;

FURTHER ORDERED that Patent Owner's Motion to Amend is *denied*;

FURTHER ORDERED that Patent Owner's Motion to Exclude is *dismissed* as moot; and

FURTHER ORDERED that because this is a final written decision, parties to the proceeding seeking judicial review of the decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

For PETITIONER:

Dan Cohn
Dan.cohn@huschblackwell.com
Samuel Digirolamo
Samuel.digirolamo@huschblackwell.com
Michael Annis
mike.annis@huschblackwell.com

For PATENT OWNER:

Jeffrey Whittle
Jeffrey.whittle@hoganlovells.com
Celine Crowson
Celine.crowson@hoganlovells.com
Joseph Raffetto
Joseph.raffetto@hoganlovells.com