IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF OHIO
WESTERN DIVISION

SYNGENTA SEEDS, INC., Plaintiff, v. UNIVERSITY OF TOLEDO, Defendant.	Civil Action No. _____

COMPLAINT FOR DECLARATORY JUDGMENT

Plaintiff Syngenta Seeds, Inc. ("Syngenta"), for its Complaint against the University of Toledo ("UT"), hereby alleges as follows:

NATURE OF THE ACTION

1. This is an action for declaratory judgment of invalidity and unenforceability of U.S. Patent No. 6,020,539 ("'539 Patent") pursuant to the Declaratory Judgment Act, 28 U.S.C. §§ 2201-02 and the Patent Laws of the United States, 35 U.S.C. § 1 *et seq.*, for declaratory judgment of no breach of contract and estoppel under the laws of the State of Ohio, and for such other relief as the Court deems just and proper.

PARTIES

2. Syngenta Seeds, Inc. is a corporation organized and existing under the laws of the State of Delaware, with its principal place of business at 11055 Wayzata Blvd., Minnetonka, Minnesota 55305. Syngenta is a world-leading agribusiness involved in the research, development, and sale of seed products, including ENOGEN®, AGRISURE DURACADE®, AGRISURE® RW, and AGRISURE VIPTERA®.

3. The University of Toledo is a public institution having corporate powers under the laws of the State of Ohio, with its primary place of operation in the City of Toledo. UT has represented that it is the assignee and owner of the '539 Patent. A true and correct copy of the '539 Patent is attached to this Complaint as Exhibit 1.

4. On January 1, 1992, UT executed a license agreement with Ciba-Geigy Limited ("1992 Agreement").

5. At the time the 1992 Agreement was entered into, UT and Ciba-Geigy were sophisticated parties with respect to patents and patent licensing, as were the individuals for both parties who negotiated the 1992 Agreement. The 1992 Agreement granted Ciba-Geigy a license to patents issuing from any continuations or continuation-in-part applications of U.S. Patent Application Serial No. 07/880,271 ("the '271 Application"), filed June 30, 1986. The '539 Patent issued from continuations and a continuation-in-part of the '271 Application. The 1992 Agreement further defined CIBA-GEIGY as any company in which Ciba-Geigy owned at least fifty percent of the voting stock or a fifty percent equity interest.

6. In August 2002, an amendment ("2002 Amendment") to the 1992 Agreement was executed in which the parties explicitly replaced all references to "CIBA-GEIGY" in the 1992 Agreement with "SYNGENTA," which is defined to include Syngenta Seeds, Inc.

7. Pursuant to the 1992 Agreement, Syngenta Seeds, Inc. is a licensee.

8. UT has asserted, and continues to assert, that certain seed products produced and sold by Syngenta Seeds, Inc., including ENOGEN®, AGRISURE DURACADE®, AGRISURE® RW, and AGRISURE VIPTERA®, are LICENSED PRODUCTS, as the term is defined in the 1992 Agreement, and that Syngenta owes royalties to UT on the sales of these products pursuant to the 1992 Agreement and the 2002 Amendment.

JURISDICTION AND VENUE

9. An actual and justiciable controversy exists between Syngenta and UT as to the invalidity and unenforceability of the '539 Patent, whether there has been a breach of the 1992 Agreement, and whether UT is estopped from seeking any royalties allegedly incurred under the 1992 Agreement. As alleged further below, UT has asserted, and continues to assert, that certain Syngenta products, including ENOGEN®, AGRISURE DURACADE®, AGRISURE® RW, and AGRISURE VIPTERA® are LICENSED PRODUCTS as the term is defined in the 1992 Agreement, and that Syngenta owes royalties to UT on sales of such products pursuant to the 1992 Agreement and 2002 Amendment. Syngenta maintains that such products are not LICENSED PRODUCTS. Syngenta further maintains that, under Ohio law, Syngenta has not breached the 1992 Agreement and UT is estopped from seeking any royalties allegedly incurred under the 1992 Agreement.

10. This Court has exclusive subject matter jurisdiction over Syngenta's claims of patent invalidity and unenforceability pursuant to federal question jurisdiction, 28 U.S.C. §§ 1331, 1338(a), the Declaratory Judgment Act, 28 U.S.C. §§ 2201-02 and the Patent Laws of the United States, 35 U.S.C. § 1 *et seq.*

11. This Court has diversity jurisdiction over Syngenta's state law contract and estoppel claims pursuant to 28 U.S.C. § 1332 because the amount in controversy exceeds $75,000, excluding interest and costs, and this action is between plaintiff, who is a citizen of Delaware and Minnesota, and defendant, who is a citizen of Ohio. This Court further has supplemental jurisdiction over Syngenta's state law claims pursuant to 28 U.S.C. § 1367 because the state law claims arise out of the same case or controversy as Syngenta's claims of patent invalidity and unenforceability.

12. This Court has personal jurisdiction over UT at least because UT's primary place of operation is in the State of Ohio and in this judicial district.

13. Venue is proper in this judicial district pursuant to 28 U.S.C. § 1391 at least because UT operates in this judicial district.

BACKGROUND

The Alleged Invention by Goldman and Graves

14. The '539 Patent is entitled "Process for Transforming Gramineae and the Products Thereof" and states on its face that it issued from U.S. Application Serial No. 08/265,982, filed on June 27, 1994. The '539 Patent further states that it issued from a continuation of U.S. Application No. 08/016,600 ("the '600 Application"), filed February 11, 1993, now abandoned; which, in turn, is a continuation of U.S. Application No. 07/436,187 ("the '271 Application"), filed November 13, 1989, now U.S. Patent No. 5,187,073; which is a continuation of U.S. Application No. 07/067,902 ("the '902 Application"), filed June 29, 1987, now abandoned; which is a continuation-in-part of U.S. Application No. 06/880,271 ("the '271 Application"), filed June 30, 1986, now abandoned. Stephen L. Goldman and Anne C. F. Graves (collectively "Goldman and Graves") are named as alleged inventors on the face of the '539 Patent.

15. The '539 Patent purports to describe a particular method of using *Agrobacterium tumefaciens* ("*Agrobacterium*") bacteria to transform seedlings of Gramineae plants, one example of which is corn. The method of the '539 Patent requires inoculating Gramineae seedlings with *Agrobacterium* at a particular stage of development and at a particular location therein. According to the '539 Patent, such plants treated in this manner purportedly produce transformed pollen that can then be used to fertilize other plants, thus putatively transferring a

desired foreign (heterologous) gene into the fertilized plant. The ’539 Patent further purports to disclose transformed plants using such method.

16. Upon information and belief, no one has successfully or independently duplicated the method of the ’539 Patent to produce stably transformed Gramineae plants. The ’539 Patent does not enable a person of ordinary skill in the art to stably transform any Gramineae plants, much less corn. Nor does the ’539 Patent sufficiently describe to a person of ordinary skill in the art that Goldman and Graves were in possession of any Gramineae plants stably transformed using their method.

17. The U.S. District Court for the District of Connecticut and the Federal Circuit Court of Appeals considered the method of Goldman and Graves and the disclosure of the ’539 Patent and found that it does not enable the stable transformation of monocot plants, including corn, *Plant Genetic Sys., N.V. v. DeKalb Genetics Corp.*, 175 F. Supp. 2d 246, 258-280 (D. Conn. 2001), *aff’d* 315 F.3d 1335, 1342-43 (Fed. Cir. 2003) (“*PGS*”). True and correct copies of the district court’s and the Federal Circuit’s decisions in *PGS* are attached to this Complaint as Exhibits 2 and 3, respectively.

18. In *PGS*, the District of Connecticut found that Goldman and Graves did not establish that they could stably transform monocot plants because they merely showed that allegedly transformed plants produced opines. (Ex. 2 at 258.) The district court explained that opine production in plants is one characteristic of infection by wild-type *Agrobacterium* as the bacteria conscript the plants to produce opines, but the detection of opines is not unambiguous proof that Goldman and Graves had transformed corn plants using *Agrobacterium*. (*Id.*)

19. In August 1986, after the earliest filing date of the ’539 Patent, Goldman and Graves published an article entitled, “The Transformation of *Zea mays* Seedlings with

Agrobacterium tumefaciens," 7 Plant Molecular Biology 43–50 (1986) ("1986 Article"). A true and correct copy of the 1986 Article is attached to this Complaint as Exhibit 4. Goldman and Graves admitted in their 1986 Article that "[w]hile the presence of T–DNA directed enzyme activities can be unambiguously detected in these corn plants, the actual presence of any [foreign DNA] sequences within the putative hosts remains to be demonstrated." (Ex. 4 at 49.)

20. Similarly, on November 12, 1998, Anne Graves testified at a deposition, during discovery in the *PGS* case, that the opine production that was detected in plants treated with the method of the '539 Patent may merely have reflected transient expression of opines and not the stable transformation of the plants. (Ex. 2 at 258.) Anne Graves further testified that she did not rule out the possibility of transient expression of opines and that she was not aware of anyone who ever ruled out the possibility of such transient expression. (*Id*.)

21. Between 1985 and 1988, Eli Lilly & Co. ("Lilly"), a former licensee of Goldman and Graves' alleged invention, attempted but could not successfully repeat Goldman and Graves' method of transformation disclosed in the '539 Patent. (Ex. 2 at 259.) The Lilly scientists, who were working with Goldman and Graves, could neither confirm Goldman and Graves' original observations concerning opine production nor detect the presence of any foreign DNA in such plants using state-of-the-art Southern blot and Northern blot techniques. (*Id.*)

22. Nor did scientists at PGS (now Bayer CropScience) believe that Goldman and Graves had demonstrated the successful transformation of corn with *Agrobacterium* (Ex. 2 at 259-60). For example, PGS's designated company witness testified that Goldman and Graves merely "report[ed] that upon infection of Zea mays seedlings with Agrobacterium, . . . they could detect opine synthesis" and that this did not "evidenc[e] successful transformation of Zea mays with Agrobacterium." (*Id.* at 259.) In 1995, a decade after the earliest filing date of the '539

Patent and after PGS made the transformation of corn a corporate priority, Dr. Kathleen D'Halluin, who led PGS's corn-transformation efforts, wrote that "the T–DNA transformation of corn was still a complete black box." (*Id.* at 260.) PGS apparently did not produce corn transformed using *Agrobacterium* until 1996 and even then, was able to do so only after significant experimentation and with the benefit of literature published by Japan Tobacco in 1994. (*Id.*)

23. Based on the 1986 Article, Anne Graves' admissions, Lilly's work, PGS's difficulties in transforming corn, and other evidence, the District of Connecticut concluded that there was "clear and convincing evidence that . . . *Agrobacterium*-mediated transformation of monocots [such as corn]—if possible at all—would have required extensive experimentation that would preclude patentability" as of 1987. (Ex. 2 at 261).

24. PGS appealed the decision of the District of Connecticut to the Federal Circuit (Ex. 3).

25. At the Federal Circuit, PGS argued (among other things) that the district court did not properly consider the disclosure of the '539 Patent in determining whether Goldman and Graves' work enabled the stable transformation of corn using *Agrobacterium* as of 1987. (Ex. 3 at 1342-43).

26. The Federal Circuit found that the district court did properly consider the '539 Patent and other evidence of record and that the district court "after weighing all [the] evidence, apparently found that the 1986 work of Goldman and Graves . . . did not enable one skilled in the art to stably transform corn cells without undue experimentation." (Ex. 3 at 1343.)

27. The Federal Circuit affirmed the district court's holding that *Agrobacterium*-mediated transformation of monocots was not enabled by the art as of 1987. (Ex. 3 at 1343-44).

Events Leading Up to the 1992 Agreement

28. Shortly after the original '271 Application (to which the '539 Patent claims priority) was filed, Goldman and Graves published their 1986 Article casting doubt on whether the detection of opines actually showed that *Agrobacterium* transformation had occurred in their work.

29. By 1992, Goldman and Graves had abandoned several applications in the '539 Patent family after the PTO repeatedly rejected the pending claims for lack of enablement.

30. For example, during prosecution of the '271 Application, Goldman and Graves attempted to generally claim transgenic corn plants. But, in an Office Action dated May 30, 1989, the PTO Examiner rejected this claim for lack of enablement under 35 U.S.C. § 112, ¶ 1. A true and correct copy of the May 30, 1989 Office Action is attached as Exhibit 5.

31. In rejecting the claims for lack of enablement, the Examiner explained, among other things:

> The specification ***only*** demonstrates the expression of heterologous genes, namely opine synthases, in ***seedling tissue or plant parts*** directly derived from growing the transformed seedling. ***No demonstration of stable gene integration or sexual transmission of the exogenous gene, other than prophetic examples, is shown.*** Given the recalcitrance of monocots to *Agrobacterium* transformation, as discussed by Applicants, and ***the possibility of transient opine synthase expression*** by non-integrative genes, as discussed by Heralsteens et al. [], ***undue experimentation would be required by one of ordinary skill in the art to obtain stable gene transformation or sexual transmission of the exogenous gene as claimed***.

(Ex. 5 at 3 (emphasis added).)

32. In a response dated December 4, 1989, Goldman and Graves pointed to other examples in their specification and argued that evidence of opine expression in leaves and pollen of dividing cells indicated that stable transformation had occurred.

33. But in an Office Action dated March 8, 1990, the Examiner maintained the rejection for lack of enablement. A true and correct copy of the March 8, 1990 Office Action is attached as Exhibit 6. In particular, the Examiner explained that opine production is not an appropriate test for determining whether stable transformation had occurred:

> Applicants urge that rejection of the claims as being non-enabled for transformed plants obtained by sexual reproduction is improper, given the demonstration of opine synthase expression in cells directly derived from transformed meristematic cells. ***The Examiner maintains that opine synthase is an insufficient test for stable gene integration*** (see, e.g., Christou et al, which discloses opine production by untransformed cells).

(Ex. 6 at 3-4 (emphasis added).)

34. By 1992, Goldman and Graves faced several rejections due to lack of enablement of claims in other continuation and continuation-in-part applications in the '539 Patent family.

35. The PTO rejected the claims in these applications because Goldman and Graves only disclosed a single method of transforming seedlings at a particular stage of development and at a particular location therein and undue experimentation was required to develop methods of transformation beyond that which they disclosed.

36. In addition to the evidence of lack of enablement in the prosecution history of the '539 Patent family, by 1992, the PTO had rejected claims in U.S. Application No. 07/507,380 by Goodman et al. that broadly covered *Agrobacterium*-mediated transformation of monocot plants such as corn. Ultimately, the Board of Patent Appeals and the Federal Circuit found these claims unpatentable for lack of enablement, as set forth in *In re Goodman*, 11 F.3d 1046, 1050-52 (Fed. Cir. 1993). A true and correct copy of the Federal Circuit's decision in *Goodman* is attached to this Complaint as Exhibit 7.

37. Upon information and belief, before UT executed the 1992 Agreement with Ciba-Geigy, individuals at UT, including Goldman and Graves, were aware that Goldman and Graves

had not successfully stably transformed any Gramineae plants such as corn using the method of the ’539 Patent.

38. Leading up to the 1992 Agreement, UT misrepresented to Ciba-Geigy that Goldman and Graves had successfully stably transformed Gramineae plants including corn seedlings with *Agrobacterium*.

39. Leading up to the 1992 Agreement, UT failed to provide Ciba-Geigy with reports prepared by the Lilly scientists documenting their unsuccessful attempts to repeat Goldman and Graves’ method or confirm that it could be used to stably transform Gramineae plants such as corn.

40. Nevertheless, before UT executed the 1992 Agreement with Ciba-Geigy, Ciba-Geigy, and likely UT as well, was aware that the subject matter described in the ’539 Patent family was not fully enabled and that certain pending patent claims and any future patent claims directed to such subject matter, if they were to issue, would be invalid for lack of enablement.

41. In the 1992 Agreement, Ciba-Geigy and UT expressly agreed to a specific definition of what constitutes a LICENSED PRODUCT.

Syngenta’s Method of Transforming Corn

42. Despite having a license to the ’539 Patent, it took Ciba-Geigy (now Syngenta) over five years and considerable experimentation to transform corn using *Agrobacterium*. Significantly, Ciba-Geigy was unable to transform corn using the method of the ’539 Patent. Only after licensing and using technology developed by others and nearly five years of experimentation was Ciba-Geigy successful in stably transforming corn using *Agrobacterium*.

43. The method Syngenta has used to transform corn differs substantially from the method of the ’539 Patent. For example, Syngenta’s method involves infecting immature

embryo tissue using *Agrobacterium*, selecting and culturing transformed embryo tissue, and developing mature plants from the cultured tissue.

44. The ’539 Patent does not describe or enable *Agrobacterium*-mediated transformation of corn, much less the transformation of corn by infecting immature embryo tissue with *Agrobacterium*, selecting and culturing transformed embryo tissue, and developing mature plants from the cultured tissue.

45. Syngenta’s ENOGEN®, AGRISURE DURACADE®, AGRISURE® RW, and AGRISURE VIPTERA® products were developed using such a method of transforming immature embryo tissue. None of these Syngenta products were developed using the method of the ’539 Patent involving the transformation of seedlings using *Agrobacterium*—assuming that method can even be used successfully to transform corn.

Syngenta’s Communications with UT

46. As discovery progressed in the *PGS* district court case in the late 1990s, Novartis (Syngenta’s predecessor-in-interest to the 1992 Agreement) kept a close eye on the case’s developments and the testimony regarding the enablement of Goldman and Graves’ work.

47. After Novartis reviewed the deposition transcripts of Goldman and Graves from the *PGS* case, Novartis met with UT on April 3, 2000 to discuss the 1992 Agreement, at UT’s request.

48. At the April 3, 2000 meeting, the General Counsel for Novartis expressed concerns about the breadth of the ’539 Patent claims and requested that UT provide documentation that would support the enablement of Goldman and Graves’ work.

49. After the April 3, 2000 meeting, Novartis sent a letter to UT, dated April 28, 2000, stating that the recent developments in the *PGS* case indicated that Goldman and Graves’ work was not enabled. As a result, Novartis requested UT to provide various categories of

documents, including documents related to the conception and reduction to practice of the alleged invention, that would support (or perhaps refute) the conclusion Novartis had reached, namely that Goldman and Graves' work was not enabled. A true and correct copy of Syngenta's April 28, 2000 letter is attached as Exhibit 8.

50. In a letter dated July 10, 2001, Syngenta (which became the successor-in-interest to the 1992 Agreement) explained to UT that these documents were "essential to Syngenta's review of the existence of appropriate support for enablement of the pending patent claims." A true and correct copy of Syngenta's July 10, 2001 letter is attached as Exhibit 9.

51. Syngenta placed UT on notice of its challenge to the validity of the '539 Patent and, in particular, placed UT on notice of the lack of enablement of the '539 Patent claims.

52. The documents Syngenta requested would have provided Syngenta with sufficient evidence to support its belief that claims of the '539 Patent were invalid.

53. UT, however, refused to provide Syngenta with the requested documents and still has not provided those documents to Syngenta.

54. Beginning in August 2014, more than a decade later, UT asserted in a series of emails with Syngenta that Syngenta's ENOGEN®, AGRISURE DURACADE®, AGRISURE® RW, and AGRISURE VIPTERA® products are covered by claims 1, 3, 22, and 23 of the '539 Patent and that Syngenta owes royalties on the sales of products covered by these claims pursuant to the 1992 Agreement and 2002 Amendment.

55. Syngenta did not begin selling any of these products until years after it notified UT of its challenge to the validity of the '539 Patent claims.

56. Syngenta specifically responded to UT's allegations by indicating, among other things, that Syngenta's products are not covered by claims 1 and 3 of the '539 Patent and that claims 22 and 23 of the '539 Patent are invalid.

57. Beginning on October, 30, 2014, on multiple occasions, Syngenta proposed to UT that the parties attempt to resolve their dispute through mediation.

58. As Ohio courts have held, an alternative dispute resolution clause in an agreement that permits the parties to engage in alternative forms of dispute resolution does not commit the parties to binding arbitration. *See, e.g., Hyde v. Sherwin-Williams Co.*, No. 95687, 2011 WL 3759651, at *1-7 (Ohio Ct. App. Aug. 25, 2011).

59. On March 30, 2015, Syngenta and UT participated in mediation in Atlanta, Georgia, attempting to resolve the present dispute.

60. The parties, however, were unsuccessful in resolving the present dispute through the mediation.

61. Syngenta denies that it owes any royalties pursuant to the 1992 Agreement and 2002 Amendment.

62. The parties have complied with any obligations to attempt alternative dispute resolution under the 1992 Agreement by engaging in mediation.

63. This dispute is ripe for adjudication by this Court.

COUNT I

(Declaratory Judgment of Invalidity of U.S. Patent No. 6,020,539)

64. Syngenta incorporates by reference the allegations in paragraphs 1 through 63.

65. The claims of the '539 Patent are invalid because of a failure to meet the conditions of patentability and/or otherwise comply with one or more of 35 U.S.C. 1 *et seq*., including § 112.

66. By way of example, and without limitation, the claims of the ’539 Patent are invalid because the ’539 Patent does not sufficiently enable, or provide written description for, the transformation of Gramineae species using *Agrobacterium tumefaciens* or the development of transformed Gramineae species from cell cultures.

67. UT disagrees that the claims of the ’539 Patent, including claims 1, 3, 22, and 23, are invalid.

68. An actual and justiciable controversy exists between Syngenta and UT regarding the invalidity of the ’539 Patent.

69. A judicial determination is necessary and appropriate so that Syngenta may ascertain its rights, duties, and obligations with regard to the ’539 Patent.

COUNT II

(Declaratory Judgment of Unenforceability of U.S. Patent No. 6,020,539)

70. Syngenta incorporates by reference the allegations in paragraphs 1 through 63.

71. The ’539 Patent is unenforceable due to inequitable conduct as a result of repeated misrepresentation made to the PTO during the prosecution of the ’539 Patent and earlier applications in the ’539 Patent family that Goldman and Graves had successfully transformed Gramineae, including corn, using *Agrobacterium* and that the specifications of the ’539 Patent family enabled such successful transformation of Gramineae.

72. Prior to 1987, Goldman and Graves never successfully transformed any Gramineae plants, including corn, with *Agrobacterium* using the seedling transformation method described and exemplified in the ’539 Patent specification.

73. Upon information and belief, no one has ever successfully transformed any Gramineae plants, including corn seedlings, with *Agrobacterium* using the seedling transformation method described in the ’539 Patent specification.

74. The misrepresentations to the PTO were knowing, deliberate, material, and made with the specific intent to deceive the PTO.

75. Specifically, under the requirements for pleading inequitable conduct as set forth by the United States Court of Appeals for the Federal Circuit in *Exergen Corp. v. Wal-Mart Stores, Inc.*, 575 F.3d 1312 (Fed. Cir. 2009), Syngenta alleges the following:

"[W]ho both knew of the material information and deliberately withheld or misrepresented it" (*Exergen*, 575 F.3d at 1329):

76. The '539 Patent is unenforceable due to inequitable conduct on part of at least Stephen L. Goldman and Anne C. F. Graves, the named inventors of the '539 Patent, as well as Wannell M. Crook and Richard D. Heberling, the principal attorneys who prosecuted the applications in the '539 Patent family.

"[W]hich claims, and which limitations in those claims, the [material misrepresentations] are relevant to" (*Exergen*, 575 F.3d at 1329):

77. Each claim of the '539 Patent recites, or otherwise requires, either a "transformed Gramineae" plant that has been transformed using *Agrobacterium Tumefaciens* or a "transformed pollen grain of a Gramineae produced by a plant grown from a seedling infected with . . . *Agrobacterium tumefaciens*."

78. The misrepresentations that Goldman and Graves had successfully transformed Gramineae, including corn, using the seedling transformation method as described and exemplified in the '539 Patent are material to each claim of the '539 Patent.

"'[H]ow' an examiner would have used this information in assessing the patentability of the claims" (*Exergen*, 575 F.3d at 1330):

79. As demonstrated by the extensive prosecution history of the applications in the '539 Patent family, which spans more than thirteen years, the PTO repeatedly rejected patent

claims proposed by Goldman, Graves, Crook, and Heberling for lack of enablement under 35 U.S.C. § 112, ¶ 1.

80. The PTO Examiner ultimately allowed certain claims to issue only after Goldman, Graves, Crook, and Heberling repeatedly misrepresented that Goldman and Graves had successfully transformed Gramineae, including corn, with *Agrobacterium* using the seedling transformation method as described and exemplified in the specifications of the '539 Patent family.

81. Beginning with the original '271 Application in the '539 Patent family, the PTO Examiner rejected claims directed to the exemplified seedling transformation method for lack of enablement under 35 U.S.C. § 112, ¶ 1. (*See, e.g.,* Exs. 5, 6.)

82. In response to these rejections, Goldman, Graves, and Crook made at least the following material misrepresentations, attempting to convince the Examiner that Goldman and Graves had, in fact, successfully transformed Gramineae using the seedling transformation method as described and exemplified in the specification of the '539 Patent:

(a) On or about December 4, 1989, during the prosecution of the '271 Application, the PTO received a response submitted by Goldman and Graves through their prosecution counsel. A true and correct copy of the December 4, 1989 response is attached to this Complaint as Exhibit 10. In the response, Goldman and Graves made at least the following misrepresentations:

> ***[E]vidence of stable gene integration is presented in the application.*** In particular, Applicants present data showing that seedlings inoculated with A. tumefaciens produce non-embryonic leaves and pollen capable of synthesizing opines (see Example III). The inoculated cells in the corn seedlings are rapidly dividing, undifferentiated cells which must undergo numerous rounds of cell division and must differentiate to become non-embryonic leaves or pollen. ***The fact that leaves and pollen derived from***

> ***inoculated seedlings retain the ability to synthesize opines is strong evidence of stable gene integration.***

(Ex. 10 at 4 (emphasis added; underlining in original).)

(b) On or about February 2, 1989, during the prosecution of the '902 Application, the PTO received a response submitted by Goldman and Graves through their prosecution counsel. A true and correct copy of the February 2, 1989 response is attached to this Complaint as Exhibit 11. In the response, Goldman and Graves made at least the following misrepresentations:

> Applicants have adequately described the target cells for inoculation as rapidly dividing cells that give rise to the germ line cells ***so that those skilled in the art could vary the exact time and location of inoculation and still obtain transformation. This could be done without undue experimentation by those skilled in the art who*** would be familiar with the development and anatomy of seedlings.

(Ex. 11 at 2 (emphasis added; underlining in original).)

(c) On or about July 17, 1989, during the prosecution of the '902 Application, the PTO received a response submitted by Goldman and Graves through their prosecution counsel. A true and correct copy of the July 17, 1989 response is attached to this Complaint as Exhibit 12. In the response, Goldman and Graves made at least the following misrepresentations:

> ***The specification clearly contains an enabling description of the inoculation of seedlings in an area of rapidly dividing cells that give rise to germ line cells***, as is currently set forth in the claims. See, e.g., page 6, lines 23-26; page 12, line 33-page 13, line 1; page 16, line 23-page 17, line 7; page 50, lines 8-11; page 51, lines 1-4; page 51, lines 26-28; and page 52, lines 12-14, of the specification. ***Moreover, those skilled in the art would know where these areas would be located on Gramineae seedlings and could determine the proper location for the inoculation without undue experimentation***. The Examiner has presented no evidence to the contrary. Applicants also submit that ***a person skilled in the art could easily determine the optimum time for inoculation without undue experimentation in view of the description in the application***.

(Ex. 12 at 2 (emphasis added).)

(d) On November 29, 1991, during the prosecution of the '187 Application, the PTO received a response submitted by Goldman and Graves through their prosecution counsel. A true and correct copy of the November 29, 1991 response is attached to this Complaint as Exhibit 13. In the response, Goldman and Graves repeated the misrepresentations in their February 2, 1989 response and made at least the following additional misrepresentations:

> Applicants are entitled to patent protection commensurate with the scope of their contribution to the art. Applicants have identified the key characteristic of cells which is necessary for ***successful transformation of the Gramineae,*** i.e., that they be rapidly dividing***. They were the first to do so . . . . Applicants strongly urge that the specification contains a description that would enable those skilled in the art to make and use the claimed invention without undue experimentation***.

(Ex. 13 at 3-4 (emphasis added; underlining in original).)

(e) Crook submitted each of the above misrepresentations by Goldman and Graves to the PTO and personally presented arguments based on these misrepresentations as to why the proposed patent claims should be allowed.

83. The PTO Examiner did not immediately find the misrepresentations by Goldman, Graves, and Crook persuasive and continued to maintain that the claims were not enabled, forcing Goldman and Graves to abandon the '271 Application and also abandon the subsequently filed continuation-in-part Application No. 07/067,902.

84. But after Goldman, Graves, and Crook persisted in their misrepresentations, the PTO Examiner ultimately allowed claims directed to the exemplified seedling transformation method, which issued as part of U.S. Patent No. 5,187,073 ("the '073 Patent"). A true and correct copy of the '073 Patent is attached as Exhibit 14.

85. The PTO Examiner would not have allowed the claims of the ’073 Patent to issue if the Examiner had known that Goldman and Graves, in fact, had not successfully transformed Gramineae, including corn, with *Agrobacterium* using the exemplified seedling transformation method.

86. After the PTO Examiner allowed claims directed to the *exemplified seedling transformation method*, Goldman, Graves, and Heberling continued to propose and pursue claims directed to *any method* of transforming Gramineae, even those not described in the specifications of the ’539 Patent family.

87. The PTO Examiner initially rejected these broader claims for lack of enablement under 35 U.S.C. § 112, ¶ 1, reasoning that the specification was only enabling for plants transformed using the exemplified seedling transformation method.

88. In response to the PTO Examiner’s repeated rejections for lack of enablement, Goldman, Graves, and Heberling changed their prosecution strategy and argued that the alleged invention was “pioneering” and therefore deserving of a lower standard when evaluating whether the specification is enabling across the full scope of the broad claims. Goldman, Graves, and Heberling further argued that the alleged invention was entitled to liberal treatment under *Eibel Process Co. v. Minnesota & Ontario Paper Co.*, 261 U.S. 45 (1923), because Goldman and Graves purportedly substantially advanced the art.

89. To support this new strategy, Goldman, Graves, and Heberling made at least the following material misrepresentations that Goldman and Graves were pioneers and had substantially advanced the art:

(a) On or about May 26, 1994, during the prosecution of the ’600 Application, the PTO received a response submitted by Goldman and Graves through their prosecution

counsel. A true and correct copy of the May 26, 1994 response is attached to this Complaint as Exhibit 15. In the response, Goldman and Graves made at least the following misrepresentations:

> ***It is submitted that the skilled artisan can make and use the invention. There is enablement for pollen grains and for transformed plants***. . . . In this case, the skilled person can make and use the invention because ***the experimental results are standard tests and the results are not speculative***.

(Ex. 15 at 2-3 (emphasis added).)

(b) On or about May 26, 1994, the PTO received a declaration by Goldman in support of the patentability of the claims of the '600 Application. A true and correct copy of the May 26, 1994 declaration is attached to this Complaint as Exhibit 16. In the declaration, Goldman made at least the following misrepresentations:

> The production of transgenic maize following Agrobacterium tumefaciens mediated transformation rests on the following pieces of evidence gathered from the spring of 1985 through the first quarter of 1986. When strains C58 and B6 are introduced into germinating maize seedlings that have been wounded in a region encompassing the scuetellar and coleoptile nodes the appropriate and predicted strain ***specific opine synthase activities are detected in cell free extracts***. ***These enzyme activities are absent in uninfected maize seedlings.*** Moreover, these enzyme activities have been shown to be T-DNA transfer dependent. . . . ***Subsequent to these first observations, the data that has been collected in this laboratory suggests that Agrobacterium tumefaciens transformation of maize is both frequent and stable.***

(Ex. 16 at 7 (emphasis added; underlining in original).) Goldman, however, did not discuss in the declaration the 1986 Article in which Goldman and Graves admitted that their results showing opine production did not establish the successful, stable transformation of Gramineae using *Agrobacterium*. (*See* Ex. 4 at 49.)

(c) On or about December 12, 1994, the PTO received a declaration by Goldman in support of the patentability of the claims of the '982 Application. A true and

correct excerpt of the December 12, 1994 declaration is attached to this Complaint as Exhibit 17. In the declaration, Goldman repeated many of the misrepresentations in his earlier declaration and made at least the following additional misrepresentations:

> ***We (Drs. Goldman and Graves) were the first to come up with transformed corn***.
>
> * * *
>
> ***The first report to show transformed maize was made by Graves and Goldman (1986)***. In that paper evidence was presented that a member of the commercially important Gramineae was subject to *Agrobacterium tumefaciens* directed transformation. This conclusion was based on two observations. First seedlings of Zea mays that have had the bacteria introduced into wound sites defined by a region which includes the scutellar node and mesocotyl ***express the activity specific opine synthase genes whose synthesis is associated with the translation of T-DNA transcripts***. Specifically, strain specific lysopine dehydrogenase activity has been detected in B6 infected material, whereas nopaline dehydrogenase activity is reported only in those plants inoculated with C58. Second, the detection of either of these activities in extracts made from infected maize plants requires that the assaulting bacterial strain be competent with respect to the transfer of T-DNA. The vir strains, JK 195 and 238Mx are not and transformation is absent. In this connection, the corresponding opine synthase activities are not found in the homogenate.

(Ex. 17 at 1, 7 (emphasis added).) Although Goldman identified the 1986 Article in this declaration, he did not discuss the portions of the 1986 Article in which Goldman and Graves admitted that their results showing opine production did not establish the successful, stable transformation of Gramineae. (*See* Ex. 4 at 49.)

(d) On or about March 20, 1995, the PTO received a declaration by Goldman in support of the patentability of the claims of the ’982 application. A true and correct copy of the March 20, 1995 declaration is attached to this Complaint as Exhibit 18. In the declaration, Goodman repeated many of the misrepresentations in his earlier declarations and made at least the following additional misrepresentations:

> ***[I]n my opinion, we (Drs. Goldman and Graves) are pioneers in this art and were the first to provide transformed corn and transformed Gramineae***.

* * *

> The examiner contends that the application shows but a single way of producing transformed corn. In response to this suggestion, we answer that ***the art taught in the application was the best one of the practical ways available to produce transformed maize at the time the patent was filed.*** We chose to inoculate in the region we did because access to the meristems was an obligate requirement for the production of transformed corn. In this connection, the recovery of transformed corn from single cells regenerated in tissue culture was not an option at the time. Specifically, corn was among the plant species that proved to be most recalcitrant to regeneration. Given this, it was undoubtedly ***the initial success of Graves and Goldman (1986)*** that provided the impetus and justification needed by universities and companies to justify the expense of producing transformed maize plants arising from a single cell.

(Ex. 18 at 2, 6 (emphasis added; emphasis in original removed).) Goldman yet again repeated many of these misrepresentations in a declaration stamped as received by the PTO on October 16, 1995.

(e) On or about March 24, 1997, during the prosecution of the ’982 Application, the PTO received a response submitted by Goldman and Graves through their prosecution counsel. A true and correct copy of the March 24, 1997 response is attached to this Complaint as Exhibit 19. In the response, Goldman and Graves made at least the followng misrepresentations:

> ***The applicants herein substantially advanced the art and were the first to transform Gramineae-especially corn***. The applicants used the new key factor of competence to transform corn. The allowance of claim 49 is solicited. The allowance of broad claims to transformed corn and transformed Gramineae is also solicited.

(Ex. 19 at 4-5 (emphasis added).) Goldman further submitted declarations with this response suggesting that Goldman and Graves had successfully transformed Gramineae, including corn.

(f) On or about November 19, 1997, the PTO received a declaration by Goldman in support of the patentability of the claims of the ’982 Application. A true and

correct copy of the November 19, 1997 declaration is attached to this Complaint as Exhibit 20. In the declaration, Goodman repeated the misrepresentations in his earlier declarations and made at least the following additional misrepresentations: "[N]o genetically engineered gramineous plants were manufactured ***until the pioneers Graves and Goldman (1986) demonstrated the importance of competence with respect to successful recovery of uniform transformed maize***." (Ex. 20 at 4-5 (emphasis added).)

(g) Heberling submitted each of the above misrepresentations by Goldman and Graves and personally presented arguments based on these misrepresentations as to why the proposed patent claims should be allowed.

90. The PTO Examiner did not immediately find the misrepresentations by Goldman, Graves, and Heberling persuasive and continued to maintain that the claims were not enabled, forcing them to eventually abandon the '600 Application.

91. But after Goldman, Graves, and Heberling persisted in their misrepresentations, the PTO Examiner ultimately allowed claims directed to a "transformed Gramineae" plant that has been transformed using any method as well as pollen from such plants, which claims issued as part of the '539 Patent.

92. The PTO Examiner would not have allowed the claims of the '539 Patent to issue if the Examiner had known that Goldman and Graves, in fact, had not successfully transformed Gramineae, including corn, with *Agrobacterium* using the exemplified seedling transformation method.

93. Further, Goldman and Graves admitted in their 1986 Article that their results showing opine production did not establish the successful, stable transformation of Gramineae

using *Agrobacterium* (*see* Ex. 4 at 49), but nevertheless continued to file and prosecute the ’902, ’187, ’600, and ’982 Applications.

94. Each of the ’902, ’187, ’600, and ’982 Applications materially misrepresented the significance of opine production and stated, for example, “***[s]ince only transformed plant tissues are known to express the opine synthase gene***s, these results are also in accord with the proposition that ***the corn seedlings have been transformed*** by infection with the vir+ A. tumefaciens.” (*See, e.g.*, Ex. 1 at 10:27-30, 12:3-7 (emphasis added).)

95. Goldman and Graves never corrected these misrepresentations in the ’902, ’187, ’600, and ’982 Applications.

96. In fact, as discussed above, Goldman and Graves maintained throughout the prosecution history of the ’539 Patent family that they had, in fact, achieved and described the successful transformation of Gramineae, including corn.

“[W]hen . . . the material misrepresentation or omission committed before the PTO” (*Exergen*, 575 F.3d at 1328):

97. The material representations relating to Goldman and Graves’ alleged successful transformation of Gramineae plants, including corn, using the method described and exemplified in the ’539 Patent occurred during the entirety of the period beginning on the date on which the original ’271 Application was filed and continuing until the ’539 Patent issued: June 30, 1986 to February 1, 2000.

“[K]nowledge of the withheld material information or of the falsity of the material misrepresentation” (*Exergen*, 575 F.3d at 1327):

98. Goldman and Graves were aware of the misrepresentations about their allegedly successful transformation of Gramineae plants, including corn, using the method of the ’539 Patent because they made the misrepresentations, either directly by submitting declarations or indirectly through their prosecution counsel.

99. Goldman and Graves were aware of the falsity of their misrepresentations because they admitted in their 1986 Article that their results showing opine production, which are described in the '539 Patent, did not demonstrate the successful transformation of Gramineae such as corn using *Agrobacterium*. (Ex. 4.)

100. In particular, Goldman and Graves admitted in their 1986 Article that "[w]hile the presence of T–DNA directed enzyme activities can be unambiguously detected in these corn plants, the actual presence of any [foreign DNA] sequences within the putative hosts remains to be demonstrated." (Ex. 4 at 49.)

101. Additionally, more than a decade after the earliest filing date of the '539 Patent, Graves testified during a deposition in the *PGS* case that the opine production that was detected in plants treated with the method of the '539 Patent may merely have reflected transient expression of opines and not the stable transformation of the plants. (Ex. 4 at 258.) Graves further testified that she did not rule out the possibility of transient expression of opines and that she was not aware of anyone who ever ruled out the possibility of such transient expression. (*Id.*)

102. Crook acted as Goldman and Graves' and UT's prosecution counsel and was involved in the prosecution of at least the following applications in the '539 Patent family: Application Nos. 06/880,271; 07/067,902; and 07/436,187. During the prosecution of these applications, Crook submitted each of Goldman and Graves' misrepresentations to the PTO and personally submitted arguments based on these misrepresentations as to why certain patent claims should be allowed.

103. Upon information and belief, given the extensive prosecution history of the '539 Patent family and the PTO Examiner's repeated claim rejections under 35 U.S.C. § 112, ¶ 1 for lack of enablement, Crook knowingly and deliberately submitted these misrepresentations.

104. Heberling acted as Goldman and Graves' and UT's prosecution counsel and was involved in the prosecution of at least the following applications in the '539 Patent family: Application Nos. 08/016,600; and 08/265,982 (which issued as the '539 Patent). During the prosecution of these applications, Heberling submitted each of Goldman and Graves' misrepresentations to the PTO and personally submitted arguments based on these misrepresentations as to why certain patent claims should be allowed.

105. Upon information and belief, given the extensive prosecution history of the '539 Patent family and the PTO Examiner's repeated claim rejections under 35 U.S.C. § 112, ¶ 1 for lack of enablement, Heberling knowingly and deliberately submitted these misrepresentations.

"[S]pecific intent to deceive the PTO" (*Exergen*, 575 F.3d at 1327):

106. On information and belief, Goldman, Graves, Crook, and Heberling acted with specific intent to deceive the PTO when they misrepresented that Goldman and Graves had successfully transformed Gramineae, including corn, using the method of the '539 Patent.

107. That Goldman, Graves, Crook, and Heberling specifically intended to deceive the PTO is supported by, among other things, the following facts:

(a) Goldman and Graves admitted in their 1986 Article that their results showing opine production, which are described in the '539 Patent, did not demonstrate the successful transformation of Gramineae such as corn using *Agrobacterium*. (Ex. 4.)

(b) The USPTO Examiner repeatedly rejected the claims of the '539 Patent family for lack of enablement, placing Goldman, Graves, Crook, and Heberling on notice that the patent disclosure was insufficient. (*See supra* ¶¶ 31-35, 79-92.)

(c) Even after the 1986 Article was published, Goldman, Graves, Crook, and Heberling filed continuation and continuation-in-part applications in the '539 Patent family, including '902, '187, '600, and '982 Applications, in which they continued to

misrepresent the significance of opine production. These applications state, for example, "***[s]ince only transformed plant tissues are known to express the opine synthase gene***s, these results are also in accord with the proposition that ***the corn seedlings have been transformed*** by infection with the vir+ A. tumefaciens." (*See, e.g.*, Ex. 1 at 10:27-30, 12:3-7 (emphasis added).)

(d) Even after the 1986 Article was published and the USPTO Examiner repeatedly rejected the claims in the '539 Patent family for lack of enablement, Goldman, Graves, Crook, and Heberling persisted in misrepresenting that Goldman and Graves had, in fact, successfully transformed Gramineae, including corn, with *Agrobacterium* using the exemplified seedling transformation method. (*See supra* ¶¶ 79-92; Exs. 5-6, 10-20.)

(e) Graves testified during discovery in the *PGS* case that the opine production that was detected in plants treated with the method of the '539 Patent may have merely reflected transient expression of opines as opposed to stable transformation of the plants and that she was not aware of anyone who had ever ruled out the possibility of such transient expression. (*See* Ex. 4 at 258.)

108. The '539 Patent is unenforceable due to the inequitable conduct on the part of at least Goldman, Graves, and Heberling during the prosecution of the '982 Application that issued as the '539 Patent.

109. Additionally, the '539 Patent is directed to the same subject matter as the earlier applications in the family, including the '271, '902, '187, and '600 Applications.

110. The Examiner's rejections and the Applicants' arguments during the prosecution of the '982 Application built on the earlier rejections and arguments made during the prosecution of the '271, '902, '187, and '600 Applications.

111. The inequitable conduct by Goldman, Graves, Crook, and Heberling during the prosecution of the earlier applications in the '539 Patent family, including the '187 Application that issued as the '073 Patent, bears an immediate and necessary relationship to the enforceability of the '539 Patent.

112. The '539 Patent is additionally unenforceable under the doctrines of unclean hands and infectious unenforceability due to the inequitable conduct on the part of at least Goldman, Graves, Crook, and Heberling during the prosecution of the earlier applications in the '539 Patent family, including the '187 Application that issued as the '073 Patent.

COUNT III

(Declaratory Judgment of No Breach of 1992 Agreement)

113. Syngenta incorporates by reference the allegations in paragraphs 1 through 63.

114. Syngenta does not sell, and has not sold, any LICENSED PRODUCTS, and therefore, Syngenta does not owe any royalties to UT pursuant to the 1992 Agreement.

115. UT has asserted, and continues to assert, that Syngenta owes royalties to UT pursuant to the 1992 Agreement on sales of products that allegedly are LICENSED PRODUCTS, including Syngenta's ENOGEN®, AGRISURE DURACADE®, AGRISURE® RW, and AGRISURE VIPTERA® products.

116. An actual and justiciable controversy exists between Syngenta and UT regarding whether Syngenta owes royalties pursuant to the 1992 Agreement.

117. A judicial determination is necessary and appropriate so that Syngenta may ascertain its rights, duties, and obligations with regard to the 1992 Agreement.

COUNT IV

(Declaratory Judgment of Equitable Estoppel of Breach of Contract Claim)

118. Syngenta incorporates by reference the allegations in paragraphs 1 through 63.

119. In 2000, UT requested to meet with Syngenta seeking to renegotiate the 1992 Agreement because UT believed that the Agreement was worth more than the parties had originally agreed in 1992.

120. At UT's invitation, Syngenta met with UT on or about April 3, 2000. During the meeting, Syngenta requested that UT provide documents relating to Goldman and Graves' work. After the meeting, Syngenta further sent a written request to UT asking UT to provide various categories of documents that would support (or perhaps refute) the conclusion Syngenta had reached, namely that the claims of the '539 Patent were invalid for lack of enablement. (*See supra* ¶¶ 46-53; Exs. 8, 9.)

121. UT had exclusive control over such documents and refused to provide them to Syngenta. (*See supra* ¶¶ 46-53; Exs. 8, 9.)

122. UT has asserted, and continues to assert, that Syngenta owes royalties to UT pursuant to the 1992 Agreement on sales of products that allegedly are LICENSED PRODUCTS, including Syngenta's ENOGEN®, AGRISURE DURACADE®, AGRISURE® RW, and AGRISURE VIPTERA® products.

123. Syngenta will be materially prejudiced if UT is allowed to proceed with a claim for breach of contract for failure to pay past royalties incurred on sales of such products that allegedly are LICENSED PRODUCTS.

124. UT is, therefore, estopped from bringing a breach of contract claim for failure to pay past royalties on sales of such products that allegedly are LICENSED PRODUCTS.

125. An actual and justiciable controversy exists between Syngenta and UT regarding whether UT is estopped from asserting that Syngenta has breached the 1992 Agreement, as

amended in 2002, by failing to pay royalties on sales of products that allegedly are LICENSED PRODUCTS.

126. A judicial determination is necessary and appropriate so that Syngenta may ascertain its rights, duties, and obligations with regard to the 1992 Agreement.

PRAYER FOR RELIEF

WHEREFORE, Syngenta prays for the following judgment and relief:

A. A declaration that each claim of the ’539 Patent is invalid;

B. A declaration that the ’539 Patent is unenforceable;

C. A declaration that Syngenta has not breached the 1992 Agreement and does not owe UT royalties pursuant to the 1992 Agreement;

D. A declaration that UT is estopped from asserting breach of the 1992 Agreement for failure to pay royalties allegedly incurred under the 1992 Agreement;

E. An injunction against UT and its affiliates, subsidiaries, assigns, employees, agents, or anyone acting in privity or concert with UT, from charging breach of the 1992 Agreement or instituting any legal action for breach of the 1992 Agreement against Syngenta or anyone acting in privity with Syngenta;

F. An order finding that this is an exceptional case and awarding Syngenta its costs, expenses, disbursements, and reasonable attorneys’ fees under 35 U.S.C. § 285 and all other applicable statutes, rules and common law; and

G. Such other further relief, in law or in equity, as this Court deems just.

Dated: April 1, 2015

By: */s/Robert H. Eddy*

Robert H. Eddy (SBN: 0030739)
SARAH V. BEAUBIEN (SBN: 0087735)
GALLAGHER SHARP
420 Madison Avenue, Suite 1250
Toledo, Ohio 43604
Telephone: (419) 241-4861
Facsimile: (419) 241-4866
reddy@gallaghersharp.com
sbeaubien@gallaghersharp.com

OF COUNSEL
Russell E. Levine, P.C.
Hari Santhanam
Kourtney Baltzer
KIRKLAND & ELLIS LLP
300 North LaSalle Street
Chicago, Illinois 60654
Telephone: (312) 862-2000
Facsimile: (312) 862-2200
russell.levine@kirkland.com
hari.santhanam@kirkland.com
kourtney.baltzer@kirkland.com

Attorneys for Plaintiff Syngenta Seeds, Inc.