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Attorneys for Plaintiff  
DEERPOINT GROUP, INC.

UNITED STATES DISTRICT COURT

EASTERN DISTRICT OF CALIFORNIA, FRESNO DIVISION

DEERPOINT GROUP, INC., an Illinois  
corporation,

Plaintiff,

v.

AGRIGENIX, LLC, a Delaware limited  
liability company; SEAN MAHONEY, a  
California individual; and CUSTOM AG  
FORMULATORS, INC., a California  
corporation,

Case No. 1:18-cv-00536-AWI-BAM

**SECOND AMENDED COMPLAINT FOR:**

**[1] TRADE SECRET  
MISAPPROPRIATION (18 U.S.C. §§ 1836  
ET SEQ.)**

**[2] TRADE SECRET  
MISAPPROPRIATION (CAL. CIV. CODE  
§§ 3426.1 ET SEQ.)**

**[3] FALSE ADVERTISING (15 U.S.C.  
§1125)**

**[4] BREACH OF SECRECY**

Defendants.

**AGREEMENT**

**[5] BREACH OF SETTLEMENT  
AGREEMENT**

**[6] INTENTIONAL INTERFERENCE  
WITH PROSPECTIVE ECONOMIC  
ADVANTAGE**

**[7] UNFAIR COMPETITION (CAL. BUS.  
PROF. CODE §§ 17200 *ET SEQ.*)**

**[8] PATENT INFRINGEMENT**

**Jury Trial Demanded**

1 Plaintiff DEERPOINT GROUP, INC. (“Deerpoint” or “Company”), by its attorneys, alleges as  
2 follows for its Complaint for Trade Secret Misappropriation, False Advertising, Breach of Secrecy  
3 Agreement, Breach of Settlement Agreement, Tortious Interference with Prospective Economic  
4 Advantage, Unfair Competition against AGRIGENIX, LLC and/or SEAN MAHONEY (collectively  
5 “Defendants”) and its claim for Patent Infringement against those Defendants and Custom AG  
6 Formulators, Inc. (“Custom AG”):

7 **NATURE OF THE ACTION**

8 1. This is an action seeking compensatory and punitive damages, and injunctive relief,  
9 arising out of Defendants’ current and/or imminent theft of Deerpoint’s proprietary and trade secret  
10 information for the benefit of a competing company, Agrigenix, LLC, that has quickly launched  
11 infringing copycat products and unfairly interfered with Deerpoint’s long-standing customer  
12 relationships. Deerpoint further seeks compensatory and exemplary damages and injunctive relief  
13 arising from the infringement of patents by Defendants and Custom AG.

14 **PARTIES**

15 2. Plaintiff Deerpoint Group, Inc. (“Deerpoint”) is a corporation organized and existing  
16 under the laws of the State of Illinois, and is licensed to do business in California with its principal  
17 place of business in Madera County at 1963 Independence Drive, Madera, CA 93637.

18 3. Upon information and belief, Defendant Agrigenix, LLC (“Agrigenix”) is a corporation  
19 organized and existing under the laws of the State of Delaware, and is licensed to do business in  
20 California with its principal place of business at 40365 Brickyard Drive, Suite 105, Madera, CA  
21 93636-9520.

22 4. Upon information and belief, Defendant Sean Mahoney (“Mahoney”) is a resident and  
23 citizen of California with a business address of 40365 Brickyard Drive, Suite 105, Madera, CA 93636-  
24 9520. Mahoney is the former Chief Executive Officer of Deerpoint and, upon further information and  
25 belief, is now the President and Chief Executive Officer of Defendant Agrigenix.

26 5. Upon information and belief, Defendant Custom AG Formulators, Inc. (“Custom AG”)  
27 is a corporation organized and existing under the laws of the State of California, and is licensed to do  
28 business in California with its principal place of business at 3430 S. Willow Avenue, Fresno, CA

1 93725.

2 6. Deerpoint is informed and believes, and thereon alleges, that each defendant was a  
3 principal, agent, or employee of each of the remaining defendants, and, in doing the things herein  
4 alleged, was acting as such principal, or within the course and scope of such agency and took some  
5 part in the acts and/or omissions set forth in this Complaint.

6 **JURISDICTION AND VENUE**

7 7. This is a civil action to, among other things, vindicate Deerpoint's federal rights arising  
8 under the trade secret protection laws of the United States, 18 U.S.C. §§ 1836, *et seq.*, the false  
9 advertising laws of the United States, 15 U.S.C. § 1125(a), and the patent laws of the United States, 35  
10 U.S.C. § 1 *et seq.*

11 8. This Court has subject matter jurisdiction over this action pursuant to 28 U.S.C.  
12 §§ 1331 and 1367(a), and 35 U.S.C. §§271 *et seq.*

13 9. This Court has personal jurisdiction over each of the defendants at least by virtue of the  
14 fact that each of them conducts business and/or reside in the State of California, has availed itself or  
15 himself of the rights and benefits of California state law, and has engaged in substantial and  
16 continuous contacts in the State of California.

17 10. Venue is proper in this District and before this Court pursuant to 28 U.S.C. §§ 1391  
18 and 1400(b) because the majority of events giving rise to the claims occurred in this District, and  
19 because Defendants have committed acts of infringement in this District.

20 **ALLEGATIONS**

21 **A. Deerpoint Crafts Success Over Many Years By Developing Fertigation Solutions**  
22 **Customized to the Needs of Agricultural Customers**

23 11. Founded as a water treatment company in 1993 by veteran chemists Dr. John Miller  
24 and Ms. Deborah Miller, Deerpoint has become an acknowledged industry leader in chemical water  
25 treatment solutions for agriculture irrigation. Deerpoint was among the first companies to adopt a  
26 precision approach to fertilization through drip irrigation systems when it developed mechanisms for  
27 delivering nutrient-rich water to crops without the common problem of irrigation lines clogged by  
28 salts. Today, Deerpoint deploys patented, precision-feeding units nicknamed "White Boxes" to

1 customer sites that enable Deerpoint technicians to inject proprietary nutrient and micronutrient blends  
2 into the grower's irrigation system. Customers in California, Arizona, and the world now recognize  
3 the "Deerpoint" name as synonymous with the term "continuous fertigation" (*i.e.*, the continuous  
4 injection of fertilizers through an irrigation system).

5 12. Over the past decade, Deerpoint has enjoyed explosive demand for its precision-fed,  
6 patented fertilizers at customer irrigation system sites. That growing business led Deerpoint to expand  
7 to increasingly larger warehouse facilities where it custom builds each chemical feed system for each  
8 customer site. The Company moved into a 10,000 square foot facility in northwest Fresno and  
9 shortly thereafter another 10,000 square foot facility down the street. Then in 2016, Deerpoint  
10 opened its doors at a new facility in Madera providing 46,000 square feet of office, warehouse, and  
11 blending facility space with an additional 30,000 square feet of foundation recently built out. The  
12 Company was featured in the Madera County Economic Development Commission's 2015-2016  
13 Annual Report. Deerpoint currently employs over 100 workers and is among the top 20-largest  
14 manufacturers, of any kind, in Madera County.

15 13. Deerpoint sells its products and services within the agricultural industry in California  
16 and Arizona, and utilizes the Internet to advertise its capabilities to customers and prospective  
17 customers everywhere. Moreover, on or about December 7, 2016, Deerpoint participated in  
18 discussions on a cross-border joint venture with Univar Canada to explore the development of new  
19 crop protection and micronutrient products for sale in northwestern Canada.

20 14. Deerpoint is committed to promoting agricultural education in the Valley, including by  
21 partnering with the Madera Community College Center and Sherman Thomas STEM Academy to  
22 provide career insights to students; hosting the 2017 Ag Camp providing Madera Unified School  
23 District students with exposure to careers in the agricultural industry; and supporting the Madera  
24 County Compact, which works to prepare local students for future careers in the agricultural industry.

25 **B. Deerpoint's Proprietary Fertilizer and Foliar Products Complement Its Patented**  
26 **Continuous Fertigation Systems To Solve Long-Standing Problems with**  
**Conventional Irrigation**

27 15. The agriculture industry adds fertilizers to plant environments, such as the soil, to  
28 fulfill the plant's nutritional requirements and thereby enhance crop growth and subsequent yields.

1 The term “fertilizer” generally refers to the material compositions used to deliver nutrients to a crop.  
2 Conventional fertilizers typically contain materials that are extraneous to the crop’s nutrient-uptake  
3 and soil condition (“yield-extraneous constituents”) but which, for practical and/or other reasons, are  
4 necessary to the delivery of the nutrients. The process of delivering fertilizer nutrients to crops is  
5 referred to as “fertilization.”

6 16. Similarly, the application of nutrients by spraying liquid fertilizer directly on to plant  
7 leaves is called “foliar feeding.”

8 17. The term “fertigation” refers to a fertilization method whereby fertilizers are added to  
9 the water being used to irrigate crops, and reflects a combination of irrigation and fertilization.  
10 Fertigation reduces equipment, fuel and labor expended in the addition of fertilizers in comparison to  
11 mechanical delivery of fertilizers, and thus fertigation achieves a significant overall cost savings.

12 18. When traditionally applied to micro-irrigation or drip systems, however, conventional  
13 fertilizers leave inorganic salt deposits within irrigation lines and emitters that, over time, frequently  
14 result in clogged systems (called “plugging”). Plugging results in uneven distribution of water and  
15 nutrients to the crop being irrigated, and in some cases, the complete shut-down of the micro-irrigation  
16 system.

17 19. The term “formulation” refers to a mixture prepared according to a specific formula.  
18 For example, as pertinent here, a fertilizer formulation is a mixture of one or more plant nutrients  
19 combined with other ingredients according to a formula.

20 20. In addition, the cost of commercial fertilizer formulations is itself significant, and  
21 commercially viable fertilizer formulations (*i.e.*, formulations sufficiently inexpensive for bulk  
22 agricultural use) typically include, as mentioned above, yield-extraneous constituents that do not  
23 contribute to or even harm plant nutrition or soil condition. Further, the bulk weight of commercial  
24 fertilizer formulations typically is water, which increases the shipping costs.

25 21. Like the agricultural community it serves, Deerpoint’s success is founded on finding  
26 practical solutions to these problems faced by farmers. It achieves that aim through an integrated  
27 system of fertilizers, custom-blended through proprietary methods, that are applied to crops through  
28 data-controlled mechanical delivery systems.

1           22.     Proprietary blends of fertilizer and foliar products form the backbone of Deerpoint's  
2 product line. Its fertilizer products are nutrient and micronutrient blends tailored by Deerpoint to a  
3 variety of crops and conditions. Because of that tailoring process, Deerpoint's fertilizer and foliar  
4 products can provide an optimal menu of primary nutrients such as potassium, nitrogen, and  
5 phosphorus mixed with other elements the plant needs in smaller amounts. Deerpoint's foliar and  
6 bloom products likewise provide blended nutrients tailored for on-leaf or on-bloom application at  
7 specific times in the crop's growth or bloom cycle. Deerpoint avoids using ancillary materials in its  
8 fertilizer and foliar products that permit toxic materials to build up in soil and plant tissue over time.  
9 The omission of such harmful materials by Deerpoint makes for healthier crops, more productive soil,  
10 and higher crop yields both in-season and over the long-term.

11           23.     Deerpoint's array of fertilizer and foliar mixes complements its mechanical systems  
12 for customized application of those products in the field or orchard. At the heart of its "Continuous  
13 Fertigation" program is patented precision feeding equipment (affectionately nicknamed "the White  
14 Box" by Deerpoint's customers). Once installed into an existing irrigation system, the White Box  
15 becomes an on-site fertilizer plant that enables Deerpoint's licensed technicians to inject proprietary  
16 nutrient and micronutrient blends that are impossible to achieve using standard fertilizer  
17 manufacturing methods.

18           24.     Dr. Miller and Ms. Miller of Deerpoint now hold at least 14 issued patents covering  
19 Deerpoint's "White Box" and fertigation technologies in the United States.

20           25.     Together, Deerpoint's integrated nutrient delivery systems comprise the industry  
21 standard and have enabled Deerpoint to grow its annual sales from \$25 million in 2016 to \$35 million  
22 in 2017 and to continue to grow its sales to higher levels in 2018 and 2019.

23           **C.     Deerpoint Protects Its Cornerstone Fertilizer and Foliar Blends as Confidential,**  
24           **Proprietary, and Trade Secret Information**

25           26.     Deerpoint's success in the agricultural fertilizer industry relies, in large part, on its  
26 industry-leading catalog of proprietary fertilizer and foliar blends that it has developed over time  
27 through the contributions of Dr. Miller and his scientific team. To that end, Deerpoint has invested  
28 millions of dollars customizing its fertilizer and foliar products and equipment to a wide range of

1 crops and crop environments so that it can have the best possible product offering for its clients in an  
2 extremely competitive marketplace. For example, Deerpoint archives the fertilizer and foliar  
3 formulations it custom prepares for growers so that it can quickly understand the needs of other  
4 potential clients growing similar crops in a similar setting, and then cost-effectively produce a new  
5 custom blend based upon previous iterations of it. In that way Deerpoint's proprietary formulation  
6 library, like all of Deerpoint's confidential information, enables Deerpoint to better understand  
7 customer needs, develop unique and unrivaled products, and then manufacture and sell those products  
8 at a price point that sets Deerpoint apart from its competitors.

9       27. Whereas traditional fertilizer companies formulate various mixtures of inorganic salts  
10 for bulk application to soil or application one product-at-a-time through an irrigation system (*i.e.*,  
11 "slug addition"), Dr. Miller utilized his knowledge and background in chemistry, physics, engineering,  
12 pharmaceuticals, mining, agriculture, electronics, quality control, regulatory, and manufacturing to  
13 develop modified fertilizer formulations that reduce the unproductive binding of fertilizer components  
14 to soil particles or to each other and, thus, provide for enhanced uptake by the crop. These chemistries  
15 and materials that Deerpoint uses to produce these formulations were developed over years of research  
16 and development, and comprise part of the confidential, proprietary, and trade secret knowledge on  
17 which the Company is founded.

18       28. The list of ingredients that make up each of Deerpoint's fertilizer and foliar  
19 formulations, raw materials acquisition, the relative proportions of those ingredients, the methods of  
20 manufacturing Deerpoint's fertilizer and foliar products, and information and know-how surrounding  
21 manufacturing those products at-scale and troubleshooting problems with their production, among  
22 other things, comprise confidential, proprietary, and trade secret information belonging to Deerpoint.

23       29. The confidential, proprietary, and trade secret nature of Deerpoint's fertilizer and foliar  
24 blends is essential to Deerpoint's business, and is the source of much of the goodwill that Deerpoint  
25 has built up in the agricultural industry over a period of years.

26       30. To maintain its competitive position in the agricultural fertilizer industry, Deerpoint  
27 places a premium on the work ethic of its employees and executives, and on maintaining strict  
28 confidentiality over the Company's proprietary formulations, practices, methods, insights, intellectual



1 property, and other confidential information. Indeed, Deerpoint does not release the constituents or  
2 methods of making its fertilizer and foliar products in its literature or in communications with  
3 customers, and complies with California labeling regulations by disclosing only guaranteed minimum  
4 amounts of certain ingredients or by making reference to a Deerpoint file number that allows the  
5 Company to maintain the confidential nature of the subject composition.

6 **1. Deerpoint Secrecy Agreements**

7 31. To ensure the highest level of protection for its confidential, proprietary, and trade  
8 secret information, Deerpoint has, since its founding in 1993, required its employees and executives  
9 (including Defendant Mahoney) to execute detailed confidentiality agreements whose secrecy  
10 requirements the Company is steadfast in enforcing.

11 32. Today and since at least 2000, every employee who joins Deerpoint is asked to sign,  
12 and does sign, an Employees Invention and Secrecy Agreement (“Secrecy Agreement”) before they  
13 may start working for Deerpoint. Executed Secrecy Agreements are obtained from incoming  
14 employees regardless of whether the development of confidential, proprietary, and trade secret  
15 information will ordinarily fall within the employee’s job responsibilities.

16 33. Upon execution of that Secrecy Agreement, Deerpoint employees confirm their  
17 understanding that:

18 [A]s an employee of Deerpoint Group, Inc., (hereinafter referred to as  
19 “Company”), *I may be given access to or acquire information confidential*  
20 *to Company* and may conceive and make inventions, discoveries,  
21 improvements, and or designs that relate to the business of Company.  
22 Accordingly, to obviate any misunderstanding at some future date regarding  
23 Company’s rights to such matters, *I accept the following obligations as*  
24 *incident to and in consideration of my employment (or continuation of*  
25 *employment as the case may be) with Company:*

26 (Preamble (emphasis added).)

27 34. Deerpoint employees executing a Secrecy Agreement promised to preserve the  
28 confidential nature of Deerpoint’s confidential, proprietary, and trade secret information as follows:

1 *I agree that unless I have received authorization from Company to do so I*  
 2 *shall not either during or after my employment with Company (a) disclose*  
 3 *to any third party, (b) use, or (c) publish any information which is secret*  
 4 *and confidential to Company. Such information, it is understood, may*  
 5 *include, but is not limited to, knowledge and data relating to processes,*  
 6 *machines, compounds and compositions, formulas, business plans, and*  
 7 *marketing and sales information originated, owned, controlled or possessed*  
 8 *by Company and which give Company an opportunity to obtain an*  
 9 *advantage over its competitors.* I further understand that as a guide I am to  
 10 consider information originated, owned, controlled, or possessed by  
 11 Company which is not disclosed in printed publications stated to be available  
 12 for distribution outside Company as being secret and Confidential to  
 13 Company. In instances wherein doubt exists in my mind as to whether  
 14 information is secret and Confidential to Company, I will request an opinion,  
 15 in writing, from Company.

16 (¶ 3 (emphasis added).)

17 35. Likewise, to secure Deerpoint's confidential and proprietary information and other  
 18 property from its competitors, Deerpoint required that its employees agree, as a condition of their  
 19 employment, that:

20 *I agree that items (including but not limited to, products, equipment, data*  
 21 *sheets, reports, memoranda, notes, records, plots, sketches, plans and other*  
 22 *tangible items) which I possess or to which I am given access to as a direct*  
 23 *result of my employment with Company shall at all times be recognized as*  
 24 *the exclusive property of Company.* I further agree that at no time, without  
 25 express authorization from Company, shall I make such items available to  
 26 third parties and that I shall upon leaving the employ of Company, deliver  
 27 promptly to Company any such items (including copies thereof) which I have  
 28 in my possession.

1 ¶ 4 (emphasis added).)

2 **2. Deerpoint's Employee Handbook**

3 36. To further protect and maintain the integrity of its confidential, proprietary, and trade  
4 secret information, Deerpoint provides a detailed a statement of its confidentiality policies in its  
5 Employee Handbook. The most recent version of Deerpoint's Employee Handbook was rolled out to  
6 all employees in or about early 2016.

7 37. The Employee Handbook provides:

8 *Some information about Deerpoint*, its employees, clients, suppliers, and  
9 vendors *may be kept confidential by the Company as a matter of law.*  
10 *Trade secrets* or confidential medical information of other employees *fall*  
11 *into this category. Information of this nature is to be kept confidential and*  
12 *divulged only to individuals within the Company with both a need to receive*  
13 *and authorization to receive the information. Trade secrets may include*  
14 *information that has been kept confidential from Deerpoint's competitors,*  
15 *such as strategic plans, pricing, customer lists, contractual terms with vendors*  
16 *or customers, and certain financial records.*

17 (Emphasis added.)

18 38. The Employee Handbook also confirmed that Deerpoint preserved its rights to pursue  
19 legal and equitable remedies that might be necessary to avoid further harm that would result from  
20 disclosure of its trade secrets by affirming that:

21 *Employees who improperly use or disclose trade secrets* or other information  
22 Deerpoint may, or is required to, keep confidential as a matter of law *will be*  
23 *subject to disciplinary action, up to and including termination of*  
24 *employment, even if they do not actually benefit from the disclosed*  
25 *information.* The *Company reserves the right to avail itself of all legal or*  
26 *equitable remedies* to prevent impermissible use of such information or to  
27 recover damages incurred as a result of the impermissible use of such  
28 information.

(Emphasis added.)

**3. Deerpoint's Extensive Employee Education Program**

39. In or about early 2016, Deerpoint updated its Employee Handbook and then conducted a company-wide seminar for all employees to review all aspects of the Company's policies, emphasizing its confidentiality policies. On or about May 2016, Deerpoint held a follow-up meeting providing each employee with a copy of the updated Employee Handbook. At that time Deerpoint also executed an updated version of its Secrecy Agreement with each of its employees. Mahoney, as Chief Executive Officer of Deerpoint, oversaw implementation of this company-wide refresh of Deerpoint's policies and secrecy protections given that the Company's director of human resources reported directly to him.

40. On or about May 2016, Deerpoint implemented an hour-long seminar for all newly-hired employees in order to make the new hires aware of Deerpoint policies reflected in the Employee Handbook, including Deerpoint's Confidentiality policy. Previously Deerpoint had conducted one-on-one training sessions for new employees. During those seminars, Deerpoint's human resources staff ensured that each new hire understood her or his obligation not to disclose Deerpoint's confidential, proprietary, and trade secret information to anyone, whether for their benefit or not. Mahoney, as Chief Executive Officer of Deerpoint, oversaw implementation of this seminar program given that the Company's director of human resources reported directly to him.

41. Information presented at these new hire seminars re-enforces the policies conveyed through Deerpoint's Employee Handbook. For example, a PowerPoint slide typically presented by Deerpoint's human resources staff provides:

- ***Some information about Deerpoint, its employees, clients, suppliers, and vendors may be kept confidential by the Company as a matter of law. Trade secrets or confidential medical information of other employees fall into this category. Information of this nature is to be kept confidential and divulged only to individuals within the Company with both a need to receive and authorization to receive the information.***
- ***Trade secrets may include information that has been kept confidential from***

1            *Deerpoint's competitors, such as patents*, strategic plans, pricing, customer  
2            lists, contractual terms with vendors or customers, and certain financial  
3            records.

- 4            •     *Employees who improperly use or disclose trade secrets* or other information  
5            Deerpoint may, or is required to, keep confidential as a matter of law *will be*  
6            *subject to disciplinary action*, up to and including termination of  
7            employment, even if they do not actually benefit from the disclosed  
8            information.
- 9            •     The *Company reserves the right to avail itself of all legal or equitable*  
10           *remedies* to prevent impermissible use of such information or to recover  
11           damages incurred as a result of the impermissible use of such information.

12 (Emphasis added.)

13           42.     Moreover, Deerpoint requires and regularly takes steps to ensure that all slides  
14           prepared for presentations at Company meetings contain the legend “Deerpoint Group, Inc. –  
15           Company Confidential” when the slide’s presenter has reason to know or believe that a slide contains  
16           Deerpoint’s confidential, proprietary, or trade secret information.

17           43.     On or about May 9, 2016, both Defendant Mahoney and Eva Kwong (“Kwong”), who  
18           at the time was Deerpoint’s Director of Business Operations/Logistics and Purchasing Manager,  
19           executed an Acknowledgment and Agreement stating, among other things, that he or she received a  
20           copy of Deerpoint’s Employee Handbook; understood that it set forth the terms and conditions of his  
21           or her employment as well as his or her duties, responsibilities, and obligations of employment with  
22           Deerpoint; and understood and agreed that it was his or her responsibility to read the Employee  
23           Handbook and abide by the rules, policies, and standards set forth therein.

24           **4.     Vendor Secrecy Agreements**

25           44.     Deerpoint also requires its vendors and suppliers to sign a secrecy agreement before it  
26           will do business with them, or even discuss potential projects involving Deerpoint’s confidential,  
27           proprietary, and trade secret information. That “Vendor Secrecy Agreement” contemplates that  
28           Deerpoint and the vendor or supplier will, as a part of their business arrangement, exchange “certain

1 commercial, financial, and technical information” including “knowhow, technology, industrial and  
2 commercial data, designs, drawings, job specifications, standards, calculations, processes, research  
3 programs, statistics and their results, research and development procedures, patents, inventions, and  
4 formulas and all other information,” such information the agreement terms “Confidential  
5 Information.” In 2006, Defendant Custom AG entered into such agreements with Deerpoint.

6 45. The Vendor Secrecy Agreement then provides for protection of such information as  
7 follows:

8 For a period of ten (10) years from the date of this Agreement, or the  
9 cessation of any agreement, whichever is later, *neither party hereto shall*  
10 *disclose to any third party, Confidential Information received from the*  
11 *Disclosing Party, nor use any Confidential Information for its own benefit,*  
12 *except in connection with its above said evaluation, or for the benefit of any*  
13 *third party*, provided that the foregoing shall not extend to any Confidential  
14 Information which:

- 15 a). was known to the party to whom the disclosure is made prior to such  
16 disclosure, as evidenced by prior written records of the recipient;  
17 b). is at the time of disclosure or subsequently becomes generally available to  
18 the public through no fault of the party to whom disclosure is made; or  
19 c). is lawfully received in writing by the party to whom disclosure is made  
20 without restriction as to use, from a third party who has received or acquired  
21 it lawfully and is under no obligation of confidentiality or non-use.

22 (Emphasis added.)

23 46. On occasion, a vendor will ask Deerpoint and/or its principals to instead execute a  
24 confidentiality agreement composed by the vendor. Deerpoint and/or its principals routinely decline,  
25 and instead require the vendor to execute Deerpoint’s Vendor Secrecy Agreement before proceeding  
26 with any information exchange.

27 47. In addition, Deerpoint has negotiated confidentiality protections into other agreements  
28 with certain manufacturers, vendors, and suppliers. A representative agreement between Deerpoint

1 and such an outside company automatically renews on an annual basis, with its confidentiality and  
2 invention ownership provisions surviving any expiration or termination of that agreement. In regard  
3 to confidentiality, that agreement requires a manufacturer, vendor, or supplier to “hold in confidence  
4 any proprietary or commercially sensitive information provided by Deerpoint to [the outside  
5 company], including any Specifications, formulas or instructions (collectively, ‘Confidential  
6 Information’).” That agreement further provides that “[i]n no event shall [the outside company]  
7 disclose Deerpoint’s Confidential Information to any third party except as required by law or with the  
8 written consent of Deerpoint. The Confidential Information shall be used by [the outside company]  
9 only in connection with the performance of this Agreement.” Additionally, that agreement mandates  
10 that “[a]ll documents containing Confidential Information shall remain the property of Deerpoint and  
11 all such documents, and copies thereof, shall be returned or destroyed upon the request of Deerpoint.”  
12 With regard to newly-created intellectual property, the agreement states that any inventions or other  
13 discoveries made by the outside company that are derived from or utilize Deerpoint’s Confidential  
14 Information belong exclusively to Deerpoint.

15                   **5. Deerpoint Imposes Extensive Regulations Regarding Employee Use of**  
16                   **Company Computers**

17           48. In order to enable employees to quickly and efficiently access and exchange  
18 information throughout the Company and around the world, Deerpoint provides its management-level  
19 employees as well as employees in its accounting, field operations, grower relations, manufacturing,  
20 warehouse operations, engineering and assembly, logistics, laboratory diagnostic, research and  
21 development, and data analytics departments with desktop and portable computer systems, file  
22 servers, terminal servers, fax machines, Internet and World Wide Web access, voice mail, cell phones  
23 (including cell phone voicemail and text message capabilities), and electronic mail (e-mail). Those  
24 electronic productivity tools come in addition to information resources available on Deerpoint’s  
25 intranet.

26           49. To ensure that Deerpoint’s confidential, proprietary, and trade secret information is  
27 secure and confined to Company-owned electronic devices, Deerpoint imposes detailed regulations  
28 that employees are obliged to maintain during work and non-work hours. With respect to electronic



1 tools, Deerpoint's Employee Handbook directs that "[t]he Company's technical resources are  
2 provided for the benefit of the Company and its clients, vendors, and suppliers. These resources are  
3 provided for use in the pursuit of Company business and are to be reviewed, monitored, and used only  
4 in that pursuit, except as otherwise provided in this policy." Deerpoint employees are reminded that  
5 when they "are using the Company's technical resources [the employee is] creating Company  
6 information using a Company asset." The handbook also specifically prohibits disclosure of  
7 confidential or trade secret information should employees use the Internet for non-business purposes.

8         50. Deerpoint further safeguards its confidential, proprietary, and trade secret information  
9 by restricting employee access to it. That is accomplished in the first instance by limiting the scope of  
10 information a given employee may access to only that information necessary to her or his job function.  
11 Even then, Company confidential, proprietary, and trade secret information may only be accessed  
12 through Company-provided, password-protected computers that are set apart from the Internet by a  
13 firewall.

14         51. Deerpoint maintains the formulations of its fertilizer and foliar products on a server that  
15 may only be accessed by personnel involved with the manufacturing and/or pricing of these products.  
16 This server is self-contained so that employees may only share information with other employees who  
17 have access to it and without taking that information off of the server. And when an employee has a  
18 business-related reason to manipulate files containing Deerpoint's proprietary formulations and  
19 pricing, they are directed to do so by moving the files to the Company's internal "U-drive" where each  
20 employee may keep and maintain files specific to their work. However, Deerpoint prohibits its  
21 employees from copying files containing its proprietary formulations and pricing to media outside of  
22 these internal systems such as external removable storage devices like a thumb or flash drive.

23         **D. Deerpoint Hires Mahoney and Kwong, Who Execute Secrecy Agreements**

24         52. On or about May 2013, Deerpoint's founders and co-owners Dr. and Ms. Miller hired  
25 Defendant Sean Mahoney to serve as the Company's Chief Executive Officer. Previously, Mahoney  
26 worked as a financial consultant and had no training in chemistry or mechanical engineering. The  
27 Millers nonetheless took a chance on him after Mahoney convinced the Millers that he could grow  
28 Deerpoint's customer base beyond its existing customers in California and Arizona. Consistent with



1 his job responsibilities, Mahoney was granted access to all confidential, proprietary, and trade secret  
2 information belonging to Deerpoint, including information related to the formulation, manufacturing,  
3 and pricing of its fertilizer and foliar products.

4 53. Mahoney executed a valid and enforceable Secrecy Agreement with Deerpoint upon  
5 starting his employment with the Company, and then executed an updated version of that agreement  
6 on or about May 9, 2016. The provisions of that valid and enforceable agreement are identical to  
7 those called out in paragraphs 33-35 above. A copy of Mahoney's executed Secrecy Agreement dated  
8 May 9, 2016 is attached as Exhibit 1 hereto.

9 54. On or about February 2008, Deerpoint hired Kwong as its executive assistant and later  
10 promoted her to Director of Business Operations reporting to Dr. and Ms. Miller. In that role, Kwong  
11 coordinated all aspects of the manufacturing of Deerpoint's fertilizer and foliar products, including  
12 raw materials acquisition, communicating the blend formulation from Dr. Miller's laboratory to the  
13 outside manufacturing toller, and working with Deerpoint's accounting staff to price these products  
14 for customers. Consistent with her job responsibilities, Kwong was granted access to all confidential,  
15 proprietary, and trade secret information belonging to Deerpoint, including information related to the  
16 formulation, manufacturing, and pricing of its fertilizer and foliar products.

17 55. Kwong executed a valid and enforceable Secrecy Agreement with Deerpoint upon  
18 starting her employment with the Company, and then executed an updated version of that agreement  
19 on or about May 9, 2016. The provisions of that valid and enforceable agreement are identical to  
20 those called out in paragraphs 33-35 above. A copy of Kwong's executed Secrecy Agreement dated  
21 May 9, 2016 is attached as Exhibit 2 hereto.

22 56. During the time of Mahoney's employment as Deerpoint's Chief Executive Officer, Dr.  
23 and Ms. Miller would primarily involve Mahoney, Kwong, and Manager, Technical Operations  
24 Jeffrey Carr in matters related to the pricing and formulation of the Company's fertilizer and foliar  
25 products. Other employees were only included on an as-needed basis in order to further safeguard  
26 against unauthorized disclosure or use of Deerpoint's confidential, proprietary, and trade secret  
27 information.

28

**E. Mahoney and Kwong Depart Deerpoint After Raiding Its Confidential Information**

57. In plain violation of the terms of Deerpoint's stringent confidentiality protections set out above, the acts of Mahoney and Kwong in this case bear the hallmarks of a carefully orchestrated plan to abscond with bushels of confidential, proprietary, and trade secret information regarding the composition and preparation of Deerpoint's proprietary fertilizer and foliar blends, procedures for manufacturing those blends, the identity of raw material suppliers, the pricing of those blends, as well as the workings of Deerpoint's mechanical "white box" systems, in order to then unfairly compete with Deerpoint by utilizing that information for the benefit of themselves and Defendant Agrigenix.

58. Namely, in the days, weeks, and months leading up to Mahoney and Kwong's departures in autumn 2017, upon information and belief, these two individuals acted in concert to gain access to and download from a central computer information regarding Deerpoint's confidential, proprietary, and trade secret technical and/or nontechnical data, formulas, patterns, processes, machines, compounds and compositions, compilations, programs, laboratory or technical notebooks, financial data, financial plans, software code, blueprints. By way of example, computer forensic analysis has revealed that, on or about September 26, 2017, Kwong accessed Deerpoint's server containing the formulations, manufacturing protocols, and pricing of Deerpoint's proprietary products from her desktop terminal. She then downloaded approximately 230 spreadsheets and other documents containing the precise details of Deerpoint's fertilizer and foliar blends, some of which had not yet been commercialized and made available to customers for purchase. Recognizing the intrinsic scientific and economic value of this information to herself and intended future employer (*i.e.*, Mahoney and Agrigenix) Kwong downloaded the entirety of the product information accessed to a removable thumb drive. There was no legitimate business reason for Kwong to download this information to an external, portable drive.

59. As further revealed by computer forensic analysis, and upon information and belief, the confidential, proprietary, and trade secret information taken by Kwong on or about September 26, 2017 included the blend specifications and pricing for Deerpoint's MTEK fertilizer products, specifically including the MTEK-2100 product.

1           60.     Upon information and belief, and as confirmed by the totality of circumstances in this  
2 case, Defendant Agrigenix and/or Defendant Mahoney came to possess the Deerpoint confidential,  
3 proprietary, and trade secret information downloaded to Kwong's removable thumb drive sometime  
4 on or after September 26, 2017 without authorization from Deerpoint.

5           61.     Kwong's actions were only the tip of the iceberg. Upon information and belief, and as  
6 observed by Deerpoint personnel, Mahoney was seen, on separate occasions before the date of his  
7 departure from the Company, removing briefcases filled with file folders or back packs and gym bags  
8 containing documents from Deerpoint's offices on early mornings or at the end of the work day.  
9 Upon information and belief, among the documents taken were files related to Deerpoint's  
10 formulation manufacturers, vendors, and suppliers, such as documents revealing the formulation of  
11 Deerpoint's fertilizer and foliar products and the original, executed copies of Deerpoint's vendor  
12 secrecy agreements.

13           62.     Mahoney and Deerpoint mutually agreed that Mahoney's employment with Deerpoint  
14 was mutually terminated on or about October 4, 2017. Kwong terminated her employment with  
15 Deerpoint on or about November 10, 2017.

16           **F.     Mahoney Sues Deerpoint, and Then Agrees as a Term of Settlement to Abide By**  
17           **His Existing Secrecy Agreement with Deerpoint**

18           63.     On or about October 3, 2017 — the day before leaving Deerpoint — Mahoney filed a  
19 lawsuit in the Superior Court of California, Fresno County, entitled *Sean Mahoney v. Deerpoint*  
20 *Group, Inc., Deborah Miller, and John Miller*. The case was assigned Case No. 17CECG03416.  
21 Then, on or about October 7, 2017 — three days after leaving Deerpoint — Mahoney filed an  
22 administrative complaint with the California Department of Fair Employment and Housing alleging  
23 additional claims against Deerpoint and the Millers. These actions were stayed by agreement of the  
24 parties in order to allow for settlement discussions to occur.

25           64.     On or about January 8, 2018, Mahoney on the one hand and Deerpoint and the Millers  
26 on the other hand executed a valid and enforceable Confidential Settlement Agreement and General  
27 Release ("Settlement Agreement").

28           65.     As pertinent here, the Settlement Agreement permits a party to it to disclose certain

1 terms and conditions as necessary to enforce them. It also included an express acknowledgement by  
2 Mahoney that his obligation to maintain the secrecy of Deerpoint's confidential, proprietary, and trade  
3 secret information survived the general release in the Settlement Agreement as follows:

4 **14.3. Acknowledgement of DPG's Confidential, Proprietary, and Trade**  
5 **Secret Information.** Plaintiff acknowledges that he had occasion to access,  
6 acquire, and generate knowledge and information related to DPG's business  
7 and technology, which DPG maintains as confidential or proprietary in order  
8 to maintain its competitive value. *Plaintiff further acknowledges that DPG*  
9 *considers this information proprietary within the meaning of Paragraph 3*  
10 *of Plaintiff's EIS Agreement with DPG attached as Exhibit "3" hereto, and*  
11 *which remains in full force and effect notwithstanding Paragraph 7 of this*  
12 *Agreement.*

13 (Emphasis added.) The term "DPG" refers to Deerpoint. The term "EIS Agreement" in the above  
14 excerpt refers to the Employees Invention and Secrecy Agreement executed by Mahoney on or about  
15 May 9, 2016, and attached as Exhibit 1 hereto. The phrase "Paragraph 7 of this Agreement" refers to  
16 the "Complete General Release" to which the parties agreed under the Settlement Agreement.

17 66. By way of the Settlement Agreement, Mahoney also expressly acknowledged that the  
18 confidential, proprietary, and trade secret information belonging to Deerpoint that he has a continuing  
19 obligation to protect includes Deerpoint's fertilizer and foliar formulations and more:

20 *Plaintiff further acknowledges that the confidential and proprietary*  
21 *information belonging to DPG comprises Trade Secret information* ("Trade  
22 Secrets") belonging to DPG in that such information includes, without  
23 limitation, technical or nontechnical data, formulas, patterns, processes,  
24 machines, compounds and compositions, automated equipment, automated  
25 information reporting to customers, compilations, programs, laboratory or  
26 technical notebooks, financial data, financial plans, business plans, product or  
27 service plans, and lists of actual or potential customers or suppliers which  
28 (a) derive economic value, actual or potential, from not being generally

known to, and not being readily ascertainable by proper means by, other persons who can obtain economic value from its disclosure or use, and (b) are the subject of efforts that are reasonable under the circumstances to maintain its secrecy. By way of examples only, and not limitation, *Plaintiff agrees that confidential, proprietary, and Trade Secret information belonging to DPG that is subject to this Agreement includes: (1) DPG macro and micro fertilizer formulations, whether applied via fertigation, foliar, or by ground; (2) DPG water treatment formulations; (3) All chemical delivery equipment, systems and methods for DPG fertilizer and water treatment products; (4) Commodity fertilizers delivered via DPG proprietary equipment, systems, or methods and (5) Or modifications thereof which would be considered obvious iterations of DPG IP.*

(Emphasis added.) The term “DPG IP” refers to Deerpoint’s patent and trademark portfolio.

67. Mahoney then promised to stand in a position of trust with Deerpoint, and to take whatever actions were reasonably necessary to prevent the dissemination, communication, or use of Deerpoint’s confidential, proprietary, and trade secret information as follows:

**14.4. Non-Disclosure.** *Plaintiff shall not divulge, communicate, use to the detriment of DPG or for the benefit of any other person or entity, or misuse in any way, any confidential, proprietary, or Trade Secret information belonging to DPG (collectively “DPG Information”) identified in Paragraph 14.3 above.* Any DPG Information now known or hereafter acquired by Plaintiff shall be deemed a valuable, special, and unique asset of DPG that is received by Plaintiff in confidence and as a fiduciary of DPG, and such *Plaintiff shall remain a fiduciary to DPG with respect to all of such DPG Information.* In addition, Plaintiff (1) will receive and hold all DPG Information in trust and in strictest confidence, (2) *will take reasonable steps to protect the DPG Information from disclosure* and will, in no event, take any action causing, or fail to take any action reasonably necessary to prevent,

1 any DPG Information from losing its character as DPG Information, and  
2 (3) except as required by law, *will not, directly or indirectly, use,*  
3 *misappropriate, disseminate or otherwise disclose any DPG Information to*  
4 *any third party without the prior written consent of DPG*, which may be  
5 withheld in DPG's absolute and sole discretion.

6 (Emphasis added.)

7 68. In regard to any of Deerpoint's tangible or intangible property remaining in Mahoney's  
8 possession, the Settlement Agreement provided that Mahoney's obligation to return such information  
9 survived that agreement's general release and, in fact, affirmatively required any such materials to be  
10 returned to Deerpoint as follows:

11 **14.5. Return of Tangible and Intangible Property Belonging to DPG.**

12 Plaintiff agrees that all books, records, reports, writings, memoranda, notes,  
13 notebooks, computer programs, equipment, sketches and sketchbooks,  
14 products, data sheets, laboratory or technical notebooks, keys, badges,  
15 business plans, laptops, computer disks, flash drives, smart phones,  
16 proposals, contracts, customer and referral source lists, and other documents  
17 and/or tangible or intangible things relating in any manner to the business of  
18 DPG (including, without limitation, any of the same embodying or relating to  
19 any DPG Information), whether prepared by Plaintiff or otherwise coming  
20 into Plaintiff's possession, *shall be the exclusive property of DPG and shall*  
21 *not be copied, duplicated, replicated, transformed, modified, or removed*  
22 *from the premises of DPG and shall, upon discovery, be returned*  
23 *immediately to DPG.* Plaintiff further acknowledges *Paragraph 4 of the EIS*  
24 *Agreement attached as Exhibit "3" hereto, and which remains in full force*  
25 *and effect notwithstanding Paragraph 7 of this Agreement.* Plaintiff further  
26 agrees to irrevocably destroy and/or delete any electronically-maintained  
27 emails, documents, files, text messages, or copies thereof containing DPG  
28 Information or otherwise belonging to DPG. Within ten (10) calendar days

1 of the Execution Date of this Agreement, Plaintiff shall provide a sworn  
2 declaration to DPG stating, under penalty of perjury, that he has fully  
3 complied with the requirements of this paragraph; a blank declaration that  
4 shall be used for this purpose is attached as Exhibit “4” hereto.

5 (Emphasis added.) Here again the Settlement Agreement states that the Employees Invention and  
6 Secrecy Agreement (“EIS Agreement”) executed by Mahoney on or about May 9, 2016, and attached  
7 as Exhibit 1 hereto, remains in force and effect notwithstanding the “Complete General Release” to  
8 which the parties agreed under “Paragraph 7 of this Agreement.”

9 69. Mahoney submitted his executed declaration referenced as “Exhibit ‘4’” in the above  
10 passage to counsel for Deerpoint on or about January 8, 2018. No outstanding documents or things,  
11 whether tangible or intangible, were identified by Mahoney in that declaration. In addition, Mahoney  
12 promised in that declaration that he had “searched for and irrevocably destroyed and/or deleted any  
13 electronically-maintained emails, documents, files, text messages, or copies thereof, in [his]  
14 possession that contain [Deerpoint] Information or otherwise belong to [Deerpoint].” However, upon  
15 information and belief, Mahoney breached the settlement agreement by failing to return documents  
16 that he took from Deerpoint’s premises prior to his departure from Deerpoint, and further breached the  
17 agreement by failing to turn over to Deerpoint documents provided to him by former employees of  
18 Deerpoint after his departure from Deerpoint.

19 70. As stated in the executed Settlement Agreement, upon his breach of any of the  
20 protections enumerated in Paragraphs 14.3-14.5 therein, Mahoney recognized and acknowledged that  
21 Deerpoint “shall be entitled to an injunction from any court of competent jurisdiction enjoining and  
22 restraining” Mahoney “or any company with which he is affiliated or in which he holds an ownership  
23 interest, and that such right to injunction shall be cumulative and in addition to whatever other rights  
24 and remedies [Deerpoint] may possess hereunder, at law or in equity.” Such injunctive remedies will  
25 not prevent Deerpoint from obtaining damages flowing from any breach as well.

26 71. Lastly, as pertinent here, Mahoney agreed “that he will not make any statements, either  
27 verbal or written, including without limitation to any electronic or print news media or other  
28 publications or to any publicly-available forums or any community organizations that would disparage



1 the reputation, image, goodwill or commercial interest of [Deerpoint], [Dr. Miller], or [Ms. Miller].”

2 **G. Mahoney Finds Agrigenix as “Deerpoint with a Twist” and Intentionally**  
3 **Interferes with Deerpoint’s Relationship with Its Customers with the Aid of**  
4 **Confidential, Proprietary, and Trade Secret Information Misappropriated from**  
5 **Deerpoint**

6 72. With Deerpoint’s treasure trove of confidential, proprietary, and trade secret  
7 information in hand, Mahoney and Kwong turned their attention to destroying their former employer  
8 by quickly launching a direct competitor, Defendant Agrigenix, that Deerpoint now understands was  
9 founded the very same month that Mahoney departed Deerpoint in or about October 2017. Upon  
10 information and belief, Mahoney holds the titles of President and Chief Executive Officer at  
11 Agrigenix, a role analogous to his former role at Deerpoint. Upon further information and belief,  
12 Kwong holds the title Operations Manager, Purchasing and Logistics, a job descriptor analogous to  
13 her former role at Deerpoint.

14 73. Billing itself as a purveyor of “The Science of Successful Farming,” Agrigenix  
15 promotes itself as an alternative to Deerpoint through promotional statements such as “By feeding  
16 your crops precisely the nutrients they need, in exactly the right amounts, at just the right time for  
17 optimum growth, Agrigenix can help you achieve dramatic operational efficiencies. Not to mention  
18 increased production and profitability.”

19 74. Apparently in service of that aim, Agrigenix states that it provides “a full line of  
20 nutrients and liquid fertilizer blends formulated with our proprietary chemistries.” In truth, the  
21 fertilizer and foliar blends manufactured, used, offered for sale, and sold by Agrigenix are pirated  
22 from the confidential files and information to which Mahoney and Kwong had access while employed  
23 by Deerpoint mere weeks before.

24 75. As Agrigenix has advertised, and upon information and belief, in or about February  
25 2018 Agrigenix launched a series of “Fertilizer Blends and Foliars” products that mimics the product  
26 line-up available from Deerpoint. For example, Agrigenix offers a micronutrient fertilizer blend it  
27 dubs “Genesis® 210” that purports to contain substantially the same ingredients as Deerpoint’s “DPG  
28 M-Tek 2100;” Agrigenix’s “Fusion® Macro/Micro Fertilizer Blend 12-0-0 10% Ca” purports to  
contain substantially the same ingredients as Deerpoint’s “DPG 12-0-0 + 10.0 Ca;” and the “Gen5



1 Compatibility<sup>TM</sup>” chemistry advertised by Agrigenix as “inorganic compatibility capabilities  
2 formulated into [Agrigenix’s] phosphorus blends that allow multiple chemistries to exist in water  
3 simultaneously without binding up or precipitating out with varying water qualities” purports to  
4 provide the same anti-plugging characteristics as the phosphorus-containing blends sold by Deerpoint  
5 as DPG 0-21-0, DPG 7-21-0, DPG 0-42-0, and DPG 8-8-8.

6 76. Moreover, as advertised by Agrigenix, and upon information and belief, Agrigenix has  
7 disseminated false and/or misleading statements to the agricultural industry to the effect that  
8 Agrigenix’s branded fertilizer blends and foliars “Quantum®,” “Genesis®,” and “Fusion®” are  
9 federally registered trademarks when, in fact, no such registrations exist. These false and/or  
10 misleading statements disseminated by Agrigenix to growers and other prospective customers during  
11 in-person meetings, at trade shows, and over the Internet have had a material impact in diverting sales  
12 from Deerpoint and other fertigation companies to their detriment because the appearance of federal  
13 trademark registration gives the false impression that Agrigenix holds the goodwill associated with  
14 established national brands when, in fact, it does not.

15 77. It is no coincidence that Agrigenix was in a position to manufacture and launch a full  
16 line of fertilizer and foliar products mirroring Deerpoint’s own within three months of Agrigenix  
17 opening its doors. Rather, Mahoney founded Agrigenix on confidential, proprietary, and trade secret  
18 information that he and/or Kwong misappropriated from Deerpoint during the term of their  
19 employment there.

20 78. Upon information and belief, Mahoney has no training in any scientific discipline,  
21 much less a discipline relevant to the design and manufacture of the fertilizer and foliar products  
22 offered and sold by Agrigenix. Upon further information and belief, Mahoney has boasted that he  
23 hates chemistry and once earned a “D” in his chemistry class.

24 79. As Agrigenix has advertised, and upon information and belief, Mr. Graham Towerton  
25 has served as the Direct of Chemical Engineering for Agrigenix since November 2017, and is  
26 responsible for formulations, production, equipment design, and analytical services. Upon further  
27 information and belief, Mr. Towerton has no graduate-level training in any field of chemistry, and has  
28 worked previously as an executive and engineer at biofuel companies. In other words, Mr. Towerton

1 holds the expertise to understand, interpret, and apply Deerpoint's confidential, proprietary, and trade  
2 secret information to accomplish the industrial manufacturing of fertilizer and foliar products, but is  
3 not himself trained to design fertilizer and foliar blends in the first instance.

4 80. Agrigenix's blatant copying of Deerpoint's fertilizer and foliar products shows again  
5 in, upon information and belief, Agrigenix's sale of a micronutrient blend it calls "Fusion 4-0-5 + 5%  
6 Ca." That name identifies a mix having nitrogen:phosphorus:potassium ratios equivalent to 4-0-5 plus  
7 5% calcium. During the time of Mahoney and Kwong's employment at Deerpoint, Dr. Miller and his  
8 scientific staff experimented with a mix having that nitrogen:phosphorus:potassium ratio and calcium  
9 percentage. That mix was shelved, however, because its constituents routinely aggregated out of  
10 solution, making the product inappropriate for use in a continuous fertigation system. Deerpoint's  
11 unrealized "4-0-5 + 5% calcium" blend thus amounts to a mistake slavishly copied by Agrigenix.

12 81. With its arsenal of copycat products in tow, Agrigenix and Mahoney and their agents  
13 have systematically approached Deerpoint's customers and others in the agricultural industry to  
14 deliberately and intentionally interfere with Deerpoint's relationships with its customers. For  
15 example, on information and belief, Mahoney and/or other representatives of Agrigenix have told  
16 existing Deerpoint customers and vendors that Agrigenix is "the same as Deerpoint with a twist," that  
17 Deerpoint is failing and will lose all of its customers to Agrigenix, and that Mahoney is not obligated  
18 to maintain the confidential and trade secret nature of Deerpoint's protected information. On further  
19 information and belief, these disparaging claims by Agrigenix and Mahoney or their agents have been  
20 paired with statements that Agrigenix's products are 20% better than Deerpoint's while being 20%  
21 cheaper.

22 82. Upon information and belief, when asked, Mahoney has told Deerpoint customers and  
23 vendors that he does not have any secrecy obligations to Deerpoint.

24 83. On or about January 29, 2018, Mr. Dave McNamara, counsel for Deerpoint, requested  
25 via email to Mahoney's counsel that Mahoney abide by his obligations under his Secrecy Agreement  
26 and his Settlement Agreement with Deerpoint. Defendants' actions nonetheless continued.

27 84. To-date, Agrigenix has succeeded in steering Deerpoint clients Agriglobe, Inc.,  
28 Anderson Farms LLC, and Dalena Farms, Inc. to Agrigenix, resulting in Deerpoint losing millions of

1 dollars in sales in an amount according to proof at trial but currently estimated at \$2.4 million.

2 **H. After a Deerpoint White Box is Stolen, Deerpoint Observes “White Boxes”**  
3 **Appearing on Customer Properties Now Served By Agrigenix**

4 85. Circumstances indicate that Agrigenix intends to steal Deerpoint’s mechanical business  
5 and related trade secrets as well.

6 86. On or about June 2016, it was discovered that a Deerpoint White Box deployed to the  
7 property of Anderson Farms was cut from its foundation and removed. The person or persons  
8 responsible are unknown to Deerpoint at this time. However, within a few days of Mahoney’s  
9 departure from Deerpoint, Anderson Ranch cancelled its fertigation business with Deerpoint. Upon  
10 information and belief, when Mr. Jim Anderson called Deerpoint’s grower relations manager, Jeff  
11 Carr, to cancel Deerpoint’s services, Mr. Anderson stated that he was terminating his account with  
12 Deerpoint because “Sean Mahoney is my boy.”

13 87. Upon information and belief, prior to Mahoney’s departure from Deerpoint on or about  
14 April 2017, former Deerpoint employees Nolan Sorenson and Diego Barrera assisted Mahoney with  
15 the installation of a White Box system in the onion fields of Dalena Farms. Although the installation  
16 was ostensibly performed under Dalena Farm’s then-existing service arrangement with Deerpoint,  
17 Mahoney was careful to shield other Deerpoint executives from the operation. Upon information and  
18 belief, when Deerpoint’s manager of field operations, Victor Martinez, asked his subordinate  
19 Mr. Barrera to explain the details of the White Box installation at Dalena Farms, Mr. Barrera replied  
20 that Mr. Martinez did not need to know and that Mahoney was handling the matter. Upon further  
21 information and belief, Mr. Sorenson and Mr. Barrera now work for or with Agrigenix.

22 88. Moreover, pursuant to Deerpoint policy, customers are not given keys to the locks  
23 securing a White Box on the customer’s property, although the customer may shut-off the White Box  
24 system in case of an emergency. Yet no key had been logged out for a White Box installed at Dalena  
25 Farms in or after April 2017; however, on information and belief, Deerpoint later learned that only  
26 Mr. Brian Dalena himself had keys to the White Box on his property given to him by Mahoney.

27 89. Upon information and belief, on or about late February – early March 2018, Agrigenix  
28 installed at least four devices approximating the outward look of Deerpoint’s White Box on property

1 managed by Agriglobe in California.

2 **FIRST CAUSE OF ACTION**

3 **(Trade Secret Misappropriation Under 18 U.S.C. §§ 1836 *et seq.* (Defend Trade Secrets Act))**

4 **(Against Agrigenix)**

5 90. For its first cause of action, Deerpoint incorporates by reference, as through fully stated  
6 herein, paragraphs 1-89 above.

7 91. At all relevant times, Deerpoint owned and possessed certain confidential, proprietary,  
8 and trade secret information, including but not limited to, technical or nontechnical data, formulas,  
9 formulations, patterns, processes, machines, compounds and compositions, compilations, programs,  
10 laboratory or technical notebooks, financial data, financial plans, pricing information, software code,  
11 blueprints, business plans, product or service plans, and lists of actual or potential customers or  
12 suppliers, as alleged above. These confidential, proprietary, and trade secret information relate to  
13 products and services used, sold, shipped and ordered in, or intended to be used, sold, shipped and/or  
14 ordered in, interstate and/or foreign commerce.

15 92. This confidential, proprietary, and trade secret information derives independent  
16 economic value, actual or potential, from not being generally known to, and not being readily  
17 ascertainable through proper means by the public, as alleged herein.

18 93. Deerpoint has taken reasonable measures to maintain such information as confidential  
19 and secret, as alleged above.

20 94. Upon information and belief, Agrigenix, and Mahoney have, in violation of  
21 Deerpoint's rights under the Defend Trade Secrets Act, 18 U.S.C. §§ 1836 *et seq.*, actually  
22 misappropriated and/or threatened to misappropriate, disclosed, and/or used Deerpoint's confidential,  
23 proprietary, and trade secret information in the improper and unlawful manner alleged herein.  
24 Specifically, Mahoney (and at his direction Kwong) misappropriated Deerpoint's confidential,  
25 proprietary, and trade secret information for the benefit of themselves and of Agrigenix, and as a  
26 result, Agrigenix now uses Deerpoint's confidential, proprietary, and trade secret information to  
27 unfairly compete with Deerpoint.

28 95. As a direct and proximate result of Agrigenix's actual and/or threatened

1 misappropriation, disclosure, and/or use of Deerpoint's confidential, proprietary, and trade secret  
2 information described herein, Deerpoint has suffered, and will continue to suffer, damages in excess  
3 of the jurisdictional amount according to proof at trial.

4 96. Deerpoint is entitled to damages for the actual loss caused by Agrigenix's  
5 misappropriation of trade secrets and/or for any unjust enrichment Agrigenix has enjoyed by such  
6 misappropriation, and in an amount not less than a reasonable royalty for Agrigenix's unauthorized  
7 disclosure or use of Deerpoint's trade secrets.

8 97. Agrigenix's misappropriation of Deerpoint's trade secrets was willful and malicious,  
9 and so Deerpoint is entitled to an award of exemplary damages equal to twice its actual damages  
10 caused by the misappropriation, as well as Deerpoint's reasonable attorneys' fees.

11 98. Because Agrigenix's misappropriation and/or threatened misappropriation, disclosure,  
12 and/or use of Deerpoint's confidential, proprietary, and trade secret information continues, Deerpoint  
13 will continue to be irreparably harmed by Agrigenix's conduct and so is entitled to the issuance of an  
14 injunction to prevent any actual or threatened misappropriation as permitted by 18 U.S.C. § 1836.

15 **SECOND CAUSE OF ACTION**

16 **(Trade Secret Misappropriation Under Cal. Civ. Code §§ 3426 *et seq.*)**

17 **(Against Agrigenix)**

18 99. For its second cause of action, Deerpoint incorporates by reference, as through fully  
19 stated herein, paragraphs 1-89 above.

20 100. At all relevant times, Deerpoint owned and possessed certain confidential, proprietary,  
21 and trade secret information as defined by California Civil Code section 3426.1(d). That confidential,  
22 proprietary, and trade secret information belonging to Deerpoint included, but was not limited to,  
23 technical or nontechnical data, formulas, formulations, patterns, processes, machines, compounds and  
24 compositions, compilations, programs, laboratory or technical notebooks, financial data, financial  
25 plans, pricing information, software code, blueprints, business plans, product or service plans, and lists  
26 of actual or potential customers or suppliers, as alleged above. These confidential, proprietary, and  
27 trade secret information described herein are not and were not generally known to Deerpoint's  
28 competitors in the agricultural industry.

1           101. Deerpoint's trade secrets and confidential information are proprietary to Deerpoint, not  
2 generally known to other persons who can obtain economic value from their disclosure or use, and  
3 Deerpoint derives independent economic value from the fact that they are not so known because they  
4 enable Deerpoint to maintain a competitive advantage in its industry.

5           102. Deerpoint has taken reasonable measures to maintain such information as confidential  
6 and secret, as alleged above.

7           103. Upon information and belief, Agrigenix, and Mahoney (and at his direction Kwong)  
8 have, in violation of Deerpoint's rights under California's Uniform Trade Secrets Act, California Civil  
9 Code section 3426 *et seq.*, actually misappropriated and/or threatened to misappropriate Deerpoint's  
10 confidential, proprietary, and trade secret information in the improper and unlawful manner as alleged  
11 herein. Specifically, Mahoney (and at his direction Kwong) misappropriated Deerpoint's confidential,  
12 proprietary, and trade secret information for the benefit of themselves and of Agrigenix, and as a  
13 result Agrigenix now uses Deerpoint's confidential, proprietary, and trade secret information to  
14 unfairly compete with Deerpoint.

15           104. As a direct and proximate result of Agrigenix's actual and/or threatened  
16 misappropriation of Deerpoint's confidential, proprietary, and trade secret information described  
17 herein, Deerpoint has suffered, and will continue to suffer, damages in excess of the jurisdictional  
18 amount according to proof at trial.

19           105. Deerpoint is also entitled to damages for the actual loss caused by Agrigenix's  
20 misappropriation of trade secrets and/or for any unjust enrichment Agrigenix has enjoyed by such  
21 misappropriation.

22           106. Agrigenix's misappropriation of Deerpoint's trade secrets was willful, wanton,  
23 malicious, and oppressive according to proof at trial, justifying an award of punitive and/or treble  
24 damages to Plaintiffs pursuant to California Civil Code Sections 3426.3(c) and 3426.4.

25                           **THIRD CAUSE OF ACTION**

26                           **(False Advertising Under 15 U.S.C. § 1125(a))**

27                           **(Against Agrigenix)**

28           107. For its third cause of action, Deerpoint incorporates by reference, as through fully

1 stated herein, paragraphs 1-89 above.

2 108. At all times relevant, Agrigenix was, and remains, engaged in the business of selling  
3 and offering for sale products and services related to custom agricultural fertilizers and foliar, as well  
4 as related fertigation systems.

5 109. At all times relevant, Agrigenix owns and operates a website [www.agrigenix.net](http://www.agrigenix.net)  
6 accessible over the Internet. Agrigenix uses that website in interstate commerce to advertise  
7 Agrigenix's products and services, and to promote its business within the agricultural industry in  
8 California, the Western United States, and beyond.

9 110. As advertised by Agrigenix, and upon information and belief, Agrigenix has  
10 disseminated false and/or misleading statements to the agricultural industry to the effect that  
11 Agrigenix's branded fertilizer blends and foliar "Quantum®," "Genesis®," and "Fusion®" are  
12 federally registered trademarks when, in fact, no such registrations exist. These false and/or  
13 misleading statements disseminated by Agrigenix to growers and other prospective customers during  
14 in-person meetings, at trade shows, and over the Internet have had a material impact in diverting sales  
15 from Deerpoint and other fertigation companies to their detriment because the appearance of federal  
16 trademark registration gives the false impression that Agrigenix holds the goodwill associated with  
17 established national brands when, in fact, it does not.

18 111. Agrigenix's false and/or misleading statements have caused Deerpoint to sustain actual  
19 and incidental damages in an amount to be proven at trial.

20 112. Upon information and belief, Agrigenix made and continues to make these and other  
21 material misrepresentations willfully and in bad faith, so as to make Agrigenix's actions exceptional  
22 and to justify an award of exemplary damages against it in an amount to be proven at trial.

23 **FOURTH CAUSE OF ACTION**

24 **(Breach of Secrecy Agreement)**

25 **(Against Mahoney)**

26 113. For its fourth cause of action, Deerpoint incorporates by reference, as through fully  
27 stated herein, paragraphs 1-89 above.

28 114. On or about May 9, 2016, Deerpoint and Mahoney entered into a valid and enforceable



1 Secrecy Agreement, as alleged herein.

2       115. Under his Secrecy Agreement, Mahoney understood that his employment at Deerpoint  
3 may give him access to Deerpoint's confidential information, and that he was not to disclose, use, or  
4 publish any confidential information belonging to Deerpoint, either during or after his employment  
5 with the Company. Mahoney further understood that such information included, without limitation,  
6 knowledge and data relating to processes, machines, compounds and compositions, formulas, business  
7 plans, and marketing and sales information originated, owned, controlled or possessed by Deerpoint  
8 and which gave Deerpoint an opportunity to obtain an advantage over its competitors. Mahoney  
9 further understood that he was to consider information originated, owned, controlled, or possessed by  
10 Deerpoint that was not disclosed in printed publications available for distribution outside of Deerpoint  
11 as confidential and secret information belonging to Deerpoint.

12       116. Also under his Secrecy Agreements, Mahoney agreed that items such as products,  
13 equipment, data sheets, reports, memoranda, notes, records, plots, sketches, plans and other tangible  
14 items to which he or she had access as a direct result of his employment with Deerpoint are, at all  
15 times, the exclusive property of Deerpoint. Mahoney further understood that he was never to make  
16 such items available to third parties without the express authorization of Deerpoint, and that he would  
17 promptly return any such items in their possession (including copies thereof) upon leaving Deerpoint.

18       117. Mahoney also understood that his obligations to Deerpoint under the Secrecy  
19 Agreement continued beyond his execution of the Settlement Agreement, as alleged herein, so that his  
20 obligations to refrain from disclosing, using, or publishing any confidential information belonging to  
21 Deerpoint remained in force and effect from the date of the Settlement Agreement and continuing  
22 thereafter.

23       118. On or about January 29, 2018, Mr. Dave McNamara, counsel for Deerpoint, requested  
24 via email to Mahoney's counsel that Mahoney abide by his obligations under his Secrecy Agreement  
25 with Deerpoint. Defendants' actions nonetheless continued.

26       119. Upon information and belief, Mahoney breached his Secrecy Agreement by, without  
27 authorization, accessing, copying, using, and/or disclosing to Agrigenix and/or other third parties  
28 confidential, proprietary, and trade secret information protected by the Secrecy Agreement, as alleged



1 herein.

2 120. Moreover, apart from disclosing Deerpoint's confidential, proprietary, and trade secret  
3 information, Mahoney further, and independently, breached the Secrecy Agreement by failing to take  
4 those steps necessary to return any tangible or intangible property and/or information to Deerpoint  
5 upon the conclusion of his employment with Deerpoint, as alleged herein.

6 121. Each of Mahoney's breaches of the Secrecy Agreement has directly and proximately  
7 caused, and will continue to cause, significant monetary, competitive, and irreparable harm to  
8 Deerpoint. To date, Deerpoint has been damaged in a sum of at least \$2.4 million as a result of  
9 Mahoney's breaches of the Secrecy Agreement. In addition, Deerpoint continues to sustain damages  
10 as a proximate result of Mahoney's breaches in an amount according to proof.

11 122. By contrast, Deerpoint has performed all conditions, covenants, and promises required  
12 on its part to be performed in accordance with the terms and conditions of the Secrecy Agreement,  
13 having employed Mahoney as agreed, and paid him for his work for Deerpoint during the time of his  
14 employment.

15 **FIFTH CAUSE OF ACTION**

16 **(Breach of Settlement Agreement)**

17 **(Against Mahoney)**

18 123. For its fifth cause of action, Deerpoint incorporates by reference, as through fully stated  
19 herein, paragraphs 1-89 above.

20 124. On or about January 8, 2018, Deerpoint and Mahoney entered into a valid and  
21 enforceable Settlement Agreement, as alleged herein. Under the Settlement Agreement, Mahoney  
22 understood and agreed that he held a position of trust as a fiduciary to Deerpoint with respect to any  
23 confidential, proprietary, and trade secret information belonging to Deerpoint that he had or has in his  
24 possession. Mahoney further understood and agreed that he must return any of Deerpoint's tangible  
25 and/or intangible property to Deerpoint, and that he must refrain from publicly disparaging Deerpoint,  
26 as alleged herein.

27 125. In line with those promises to Deerpoint under the Settlement Agreement, Mahoney  
28 understood that he had occasion to access, acquire, and generate knowledge and information related to

1 Deerpoint's business and technology, which Deerpoint maintains as confidential or proprietary in  
2 order to maintain its competitive value. Mahoney further understood that such information comprised  
3 trade secret information including, without limitation, technical or nontechnical data, formulas,  
4 patterns, processes, machines, compounds and compositions, automated equipment, automated  
5 information reporting to customers, compilations, programs, laboratory or technical notebooks,  
6 financial data, financial plans, business plans, product or service plans, and lists of actual or potential  
7 customers or suppliers which (a) derive economic value, actual or potential, from not being generally  
8 known to, and not being readily ascertainable by proper means by, other persons who can obtain  
9 economic value from its disclosure or use, and (b) are the subject of efforts that are reasonable under  
10 the circumstances to maintain its secrecy.

11 126. Also under the Settlement Agreement, Mahoney agreed that examples of such trade  
12 secret information belonging to Deerpoint include: (1) Deerpoint macro and micro fertilizer  
13 formulations, whether applied via fertigation, foliar, or by ground; (2) Deerpoint water treatment  
14 formulations; (3) All chemical delivery equipment, systems and methods for Deerpoint fertilizer and  
15 water treatment products; (4) Commodity fertilizers delivered via Deerpoint proprietary equipment,  
16 systems, or methods and (5) Modifications thereof which would be considered obvious iterations of  
17 Deerpoint's patented inventions.

18 127. In line with those recognitions, Mahoney agreed that he would not divulge,  
19 communicate, use to the detriment of Deerpoint or for the benefit of any other person or entity, or  
20 misuse in any way, any confidential, proprietary, or trade secret information belonging to Deerpoint.

21 128. On or about January 29, 2018, Mr. Dave McNamara, counsel for Deerpoint, requested  
22 via email to Mahoney's counsel that Mahoney abide by his obligations under his Settlement  
23 Agreement with Deerpoint. Defendants' actions nonetheless continued.

24 129. Upon information and belief, Mahoney breached the Settlement Agreement after its  
25 execution date by, without authorization, accessing, copying, using, and/or disclosing to Agrigenix  
26 and/or other third parties confidential, proprietary, and trade secret information protected by the  
27 Settlement Agreement, as alleged herein.

28 130. Moreover, upon information and belief, apart from disclosing Deerpoint's confidential,

1 proprietary, and trade secret information, Mahoney further, and independently, breached the  
2 Settlement Agreement after its execution date by failing to take the necessary steps to hold in  
3 confidence, protect, and not sue, misappropriate, disseminate or otherwise disclose, directly or  
4 indirectly, any confidential, proprietary, or trade secret information belonging to Deerpoint without  
5 Deerpoint's prior written consent, as alleged herein.

6 131. Lastly, upon information and belief, Mahoney has publicly disparaged and/or caused  
7 the public disparagement of Deerpoint in violation of the Settlement Agreement after its execution  
8 date.

9 132. Each of Mahoney's breaches of the Settlement Agreement has directly and proximately  
10 caused, and will continue to cause, significant monetary, competitive, and irreparable harm to  
11 Deerpoint. To date, Deerpoint has been damaged in a sum of at least \$2.4 million as a result of  
12 Mahoney's breaches of the Settlement Agreement. In addition, Deerpoint continues to sustain  
13 damages as a proximate result of Mahoney's breaches in an amount according to proof.

14 133. By contrast, Deerpoint has performed all conditions, covenants, and promises required  
15 on its part to be performed in accordance with the terms and conditions of the Settlement Agreement,  
16 having paid the agreed sum to Mahoney in exchange for his agreement to be bound by the covenants  
17 and promises expressed therein.

18 **SIXTH CAUSE OF ACTION**

19 **(Intentional Interference with Prospective Economic Advantage)**

20 **(Against Agrigenix and Mahoney)**

21 134. For its sixth cause of action, Deerpoint incorporates by reference, as through fully  
22 stated herein, paragraphs 1-89 above.

23 135. An economic relationship in the form of various customer relationships between  
24 Deerpoint and its customers Agriglobe, Inc., Anderson Farms LLC, and Dalena Farms, Inc. existed,  
25 which would have continued and provided Deerpoint with a future benefit but for Defendants'  
26 intentional interference.

27 136. Defendant Mahoney knew of the existence of these economic relationships at least  
28 because of his job responsibilities and term of employment with Deerpoint. Upon information and

1 belief, Mahoney conveyed his knowledge of Deerpoint's customer relationships to Agrigenix.

2       137. As alleged herein, and upon information and belief, Agrigenix and/or its employees  
3 and agents (both before and after the execution date of the Settlement Agreement) and Mahoney (after  
4 the execution date of the Settlement Agreement) intentionally disparaged Deerpoint within the  
5 agricultural industry, and specifically to Agriglobe, Anderson Farms, and Dalena Farms. For  
6 example, upon information and belief, Mahoney and/or other representatives of Agrigenix have told  
7 existing Deerpoint customers that Agrigenix is "the same as Deerpoint with a twist," and that  
8 Deerpoint is failing and will lose all of its customers to Agrigenix. On further information and belief,  
9 these disparaging claims by Mahoney, Agrigenix, and/or their employees or agents have been paired  
10 with statements that Agrigenix's products are 20% better than Deerpoint's while being 20% cheaper.  
11 These and other statements by Defendants communicated to prospects in the agricultural industry that  
12 Agrigenix had superior products when, in reality, it only had copies of Deerpoint's proprietary  
13 products.

14       138. These statements by Mahoney and/or Agrigenix about Deerpoint and its products and  
15 services were untrue or misleading, and made to influence or tend to influence the decisions by  
16 Deerpoint's former customers to move their business to Agrigenix.

17       139. Deerpoint's relationships with Agriglobe, Anderson Farms, and Dalena Farms were  
18 actually disrupted by the business disparagements alleged herein in that such disparagements  
19 intentionally, wrongfully, and unlawfully induced these customers of Deerpoint to end their economic  
20 relationship with Deerpoint, and subsequently converted such customers to be customers of  
21 Agrigenix, all to the economic disadvantage of Deerpoint. Information presently available to  
22 Deerpoint indicates that it lost at least the Agriglobe and Dalena Farms accounts after the Settlement  
23 Agreement's January 8, 2018 execution date.

24       140. As a proximate result of the intentional business disparagements alleged herein,  
25 Deerpoint has suffered damages in an amount according to proof. Deerpoint seeks all monetary  
26 damages caused by the Defendants' actions, including punitive damages.

**SEVENTH CAUSE OF ACTION**

**(Unfair Competition Under Cal. Bus. Prof. Code §§ 17200 *et seq.*)**

**(Against Agrigenix and Mahoney)**

141. For its seventh cause of action, Deerpoint incorporates by reference, as through fully stated herein, paragraphs 1-89 and 137 above.

142. California Business and Professions Code section 17200, *et seq.*, prohibits acts of unfair competition, including any and all “unlawful, unfair or fraudulent business act or practice.”

143. Deerpoint is informed and believes, and on that basis alleges, that the conduct of Defendants Mahoney and Agrigenix as alleged herein constitutes “unfair” business practices in violation of the unfair competition provisions of California Business & Professions Code §§ 17200, *et seq.*, in that Agrigenix and/or its employees and agents (both before and after the execution date of the Settlement Agreement) and Mahoney (after the execution date of the Settlement Agreement) knowingly made untrue or misleading statements about Deerpoint and its products and services in order to persuade or tend to persuade Deerpoint’s customers to move their business to Agrigenix. As such, the alleged conduct by Defendants, and each of them, was intended to unfairly deprive Deerpoint of customer relationships that Deerpoint expected would continue in order to disrupt Deerpoint’s business for the benefit of Agrigenix.

144. The above-referenced conduct by Defendants Mahoney and Agrigenix also constitutes “unlawful” business practices in violation of the unfair competition provisions of California Business & Professions Code §§ 17200, *et seq.*, in that, upon information and belief, such conduct rose to the level of intentional interference with Deerpoint’s prospective economic advantage as that violation is defined in case law.

145. Moreover, as advertised by Agrigenix, and upon information and belief, Agrigenix has disseminated false and/or misleading statements to the agricultural industry to the effect that Agrigenix’s branded fertilizer blends and foliar “Quantum®,” “Genesis®,” and “Fusion®” are federally registered trademarks when, in fact, no such registrations exist. These false and/or misleading statements disseminated by Agrigenix violate federal laws against false advertising, as alleged herein, and as such constitute “unlawful” and/or “unfair” business practices in violation of the

1 unfair competition provisions of California Business & Professions Code §§ 17200, *et seq.*

2 146. Deerpoint has been harmed and has lost money and property as a result of Defendants’  
3 conduct, including, but not limited to, lost productivity costs, lost profits as a result of the disruption  
4 of Deerpoint’s business, and increased costs in identifying, obtaining, and preserving customers.

5 147. Deerpoint requests an order of restitution against Defendants.

6 148. Defendants’ conduct described herein constitutes unfair and/or unlawful business  
7 practices that should be restrained. As such, Deerpoint seeks an order from the Court enjoining  
8 Defendants, including their agents, principals, servants, representatives, joint-venturers, partners (of  
9 any kind), and/or alter egos, from contacting Deerpoint’s customers and otherwise inducing or  
10 attempting to induce Deerpoint’s customers to take their business from Deerpoint.

11 **EIGHTH CAUSE OF ACTION**

12 **(Patent Infringement)**

13 **(Against Custom AG, Agrigenix, and Mahoney)**

14 149. For its eighth cause of action, Deerpoint incorporates by reference, as through fully  
15 stated herein, paragraphs 1-89 above.

16 150. U.S. Patent No. 9,856,179 (the “’179 Patent”) is entitled “Method and Composition  
17 for Agricultural Potassium-Plus Fertigation” and issued on January 2, 2018. A true and correct  
18 copy of the ‘179 Patent is attached as Exhibit 3 to this Complaint. Dr. Miller and Ms. Miller are  
19 the owner of all rights, title, and interest in and to the ‘179 Patent, and have licensed the ‘179  
20 Patent exclusively to Deerpoint. Deerpoint has full and exclusive right to file suit to enforce the  
21 ‘179 Patent, including the right to recover for infringement. The ‘179 Patent is valid and  
22 enforceable under United States patent laws.

23 151. Defendant Mahoney worked with Defendant Custom AG during his time as the  
24 CEO of Deerpoint. On information and belief, after his departure, Defendant Mahoney introduced  
25 and directed Defendant Agrigenix to work with Defendant Custom AG to make Agrigenix  
26 formulations, including Fusion/Rogue 0-6-18, Fusion/Rogue 9-0-14, and Rogue 9-4-14. After  
27 making these formulations, Defendants Mahoney and Agrigenix sold those formulations to their  
28 customers.

1           152. Defendants have directly infringed, continue to infringe, and/or have induced or  
2 contributed to the infringement of at least claim 14 of the ‘179 Patent by making, using, selling,  
3 and offering for sale, without authority or license, several formulations, including Fusion/Rogue 0-  
4 6-18, Fusion/Rogue 9-0-14, and Rogue 9-4-14 (“the ‘179 Accused Products”).

5           153. Defendants Mahoney and Agrigenix also actively, knowingly, and intentionally  
6 induced infringement of one or more of the claims of the ‘179 Patent under the 35 U.S.C. § 271(b)  
7 by actively encouraging others to make, use, sell, and/or offer to sell in the United States, the ‘179  
8 Accused Products or other products containing components of the ‘179 Accused Products.

9           154. Defendants have further contributed to the infringement of one or more claims of  
10 the ‘179 Patent under 35 U.S. C. § 271(c) by offering to sell and selling a component of the ‘179  
11 Patent, that constitutes a material formula in the inventions, knowing the same to be especially  
12 made or especially adapted for use of the ‘179 Patent, and is not suitable in commerce for a  
13 substantial non-infringing use.

14           155. The ‘179 Accused Products meet the limitations of at least claim 14 of the ‘179  
15 Patent. Specifically, claim 14 of the ‘179 Patent recites: “A treated irrigation water comprising a  
16 potassium-plus nutrient feedstock and irrigation water, wherein said potassium-plus nutrient  
17 feedstock is comprised of from 10 to 50 wt. percent potassium formate and from 1 to 35 wt.  
18 percent additional yield-assist constituent(s).” The details of Defendants’ infringement through the  
19 ‘179 Accused Products are set forth in Exhibit 4 in claim chart form, filed separately under seal.

20           156. The foregoing allegations are based on limited discovery. The examples provided  
21 in these allegations with respect to the ‘179 Accused Products are non-limiting illustrations based  
22 on the information available to Deerpoint at this time. Deerpoint reserves the right to modify this  
23 cause of action on the basis of further information about the ‘179 Accused Products (and other  
24 formulations) that it obtains during discovery.

25           157. Defendants’ infringement has damaged and continues to damage Deerpoint in an  
26 amount yet to be determined, of at least a reasonable royalty and the lost profits that Deerpoint  
27 would have made but for Defendants’ acts of infringement.

28

**PRAYER FOR RELIEF**

Based on the foregoing, Deerpoint hereby demands a trial by jury for all issues so triable, and prays for judgment against Defendants Agrigenix, Mahoney, and Custom AG as follows:

1. For a judgment against each of the Defendants for direct and consequential damages in amounts according to proof;
2. For pre-judgment interest on all damages;
3. For punitive and exemplary damages in an amount appropriate to punish or set an example of Mahoney, Agrigenix, and/or Custom AG, to be determined at trial;
4. For an order of restitution against Defendants;
5. Preliminary and permanent injunctive relief to prevent the Defendants Mahoney and Agrigenix, and each of them, from using Deerpoint's confidential, proprietary, and trade secret information in any way, including in designing, manufacturing, or marketing Agrigenix products and services; from continuing to possess Deerpoint's tangible and/or intangible property; and from publicly disparaging Deerpoint.
6. Preliminary and permanent injunctive relief to prevent Defendants Custom AG, Mahoney, and Agrigenix from continuing to infringe U.S. Patent No. 9,856,179.
7. Attorneys' fees, witness fees, and the costs of litigation incurred by Deerpoint, as applicable;
8. For costs of suit incurred herein; and
9. For such other and further relief the Court may deem just and proper.



1 DATED: February 24, 2020

Respectfully submitted,

2 KILPATRICK TOWNSEND & STOCKTON LLP

3  
4 By: /s/ Jon Michaelson

JON MICHAELSON

5 MANSI H. SHAH

6 ADAM WILEY

7 Attorneys for Plaintiff

DEERPOINT GROUP, INC.

# EXHIBIT 1

**DEERPOINT GROUP, INC.  
EMPLOYEES INVENTION AND SECRECY AGREEMENT**

I, Sean P. Mahoney understand that as an employee of Deerpoint Group, Inc., (hereinafter referred to as "Company"), I may be given access to or acquire information confidential to Company and may conceive and make inventions, discoveries, improvements, and or designs that relate to the business of Company. Accordingly, to obviate any misunderstanding at some future date regarding Company's rights to such matters, I accept the following obligations as incident to and in consideration of my employment (or continuation of employment as the case may be) with Company:

1). I agree to disclose promptly and in writing to Company all inventions, discoveries, improvements, or designs (a) which are conceived or made by me during the term of my employment with Company and which relate to Company's existing fields of operation or a reasonable expansion thereof and (b) which are conceived or made by me within three (3) years following termination of my employment with Company and which are based upon work done by me or assigned to me or upon information to which I had access as a result of my employment with Company. I agree that such inventions, discoveries, improvements, or designs shall be the exclusive property of Company, whether or not patent applications are filed thereon and I hereby assign to Company all rights, title, and interest to such inventions, discoveries, improvements, and designs. It is understood that in the event I feel an invention, discovery, improvement, or design made or conceived by me does not fall within either of categories (a) or (b) above, I have the right to request a statement in writing from Company of Company's disclaimer of any rights thereto. It further is understood that if such a request discloses a difference of opinion, the issue shall be submitted at Company's expense to a patent attorney mutually acceptable to the parties and the ultimate decision of that attorney shall be final. Failure on my part to request such a disclaimer from Company within six (6) months of the conception of me of any inventions, discovery, improvement, or design falls within either category (a) or (b) above.

2). I agree to perform any acts and execute at Company's request and at no expense to me, any and all papers and instruments Company considers reasonably necessary to perfect and protect Company's rights, title, and interest in any and to inventions, discoveries, improvements, and designs covered by paragraph 1 above, and any U.S. and/or foreign patent applications or extensions thereof embodying same. I further agree that this obligation shall continue after the termination of my employment with Company.

3). I agree that unless I have received authorization from Company to do so I shall not either during or after my employment with Company (a) disclose to any third party, (b) use, or (c) publish any information which is secret and confidential to Company. Such information, it is understood, may include, but is not limited to, knowledge and data relating to processes, machines, compounds and compositions, formulas, business plans, and marketing and sales information originated, owned, controlled or possessed by Company and which give Company an opportunity to obtain an advantage over its competitors. I further understand that as a guide I am to consider information originated, owned, controlled, or possessed by Company which is not

disclosed in printed publications stated to be available for distribution outside Company as being secret and Confidential to Company. In instances wherein doubt exists in my mind as to whether information is secret and Confidential to Company, I will request an opinion, in writing, from Company.

4). I agree that items (including but not limited to, products, equipment, data sheets, reports, memoranda, notes, records, plots, sketches, plans and other tangible items) which I possess or to which I am given access to as a direct result of my employment with Company shall at all times be recognized as the exclusive property of Company. I further agree that at no time, without express authorization from Company, shall I make such items available to third parties and that I shall upon leaving the employ of Company, deliver promptly to Company any such items (including copies thereof) which I have in my possession.

5). I agree that Company may make reasonable use of my name, portrait or photograph for advertising and trade purposes.

6). I agree that employment by and the compensation routinely received therefore from Company, and such other compensation as Company may from time to time provide, shall be full consideration and compensation for services performed by me and for inventions, discoveries, improvements, and designs assigned by me to Company hereunder. I further understand that the amount and/or nature of compensation routinely received by me from Company may be changed from time to time without affecting any provision of this agreement.

7). I further understand that the term "Company" as employed herein shall be taken to include Deerpoint Group, Inc. ("DPG") and any and all corporations, which are owned directly through the owners of DPG, including but not limited to Deerpoint Industries, Inc. and J.C. Miller and Associates, Inc. Therefore, for example, the phrase "fields of operation of Company" as employed herein shall include the fields of operation of such related corporations as well as DPG. This agreement, when executed by me, shall inure to the benefit of said corporations and shall continue to be in full force and effect as long as I continue employment with Company.

8). I agree that I may terminate my employment with the Company at any time, with or without reason or notice. The Company may also terminate my employment at any time with or without reason or notice.

9). This agreement is divisible and separable so that, if any provision or provisions hereof shall be held to be invalid, such holding shall not impair the remaining provisions hereof. If any provision hereof is construed to be too broad to be enforced, such provision shall be construed to create only an obligation to the full extent allowable by law.


10). This agreement shall bind me and my heirs, executors, administrators, and personal representatives and the successors and assigns of Company.

11). This agreement shall be construed according to the laws of the state of California.




12). This agreement supercedes all prior agreements, if any, between Company and myself with respect to the matters set forth.

In evidence of my assent to and understanding of the above terms I have signed this agreement, this 9<sup>th</sup> day of May, 2016.

  
\_\_\_\_\_  
Employee Signature

Sean P. Mahoney  
\_\_\_\_\_  
Employee Name

By   
\_\_\_\_\_  
DPG Executive

HR DIRECTOR  
\_\_\_\_\_  
Title

5/9/16.  
\_\_\_\_\_  
Date  
Deerpoint Group, Inc.

# EXHIBIT 2

**DEERPOINT GROUP, INC.  
EMPLOYEES INVENTION AND SECRECY AGREEMENT**

I, Eva Kwong understand that as an employee of Deerpoint Group, Inc., (hereinafter referred to as "Company"), I may be given access to or acquire information confidential to Company and may conceive and make inventions, discoveries, improvements, and or designs that relate to the business of Company. Accordingly, to obviate any misunderstanding at some future date regarding Company's rights to such matters, I accept the following obligations as incident to and in consideration of my employment (or continuation of employment as the case may be) with Company:

- 1). I agree to disclose promptly and in writing to Company all inventions, discoveries, improvements, or designs (a) which are conceived or made by me during the term of my employment with Company and which relate to Company's existing fields of operation or a reasonable expansion thereof and (b) which are conceived or made by me within three (3) years following termination of my employment with Company and which are based upon work done by me or assigned to me or upon information to which I had access as a result of my employment with Company. I agree that such inventions, discoveries, improvements, or designs shall be the exclusive property of Company, whether or not patent applications are filed thereon and I hereby assign to Company all rights, title, and interest to such inventions, discoveries, improvements, and designs. It is understood that in the event I feel an invention, discovery, improvement, or design made or conceived by me does not fall within either of categories (a) or (b) above, I have the right to request a statement in writing from Company of Company's disclaimer of any rights thereto. It further is understood that if such a request discloses a difference of opinion, the issue shall be submitted at Company's expense to a patent attorney mutually acceptable to the parties and the ultimate decision of that attorney shall be final. Failure on my part to request such a disclaimer from Company within six (6) months of the conception of me of any inventions, discovery, improvement, or design falls within either category (a) or (b) above.
- 2). I agree to perform any acts and execute at Company's request and at no expense to me, any and all papers and instruments Company considers reasonably necessary to perfect and protect Company's rights, title, and interest in any and to inventions, discoveries, improvements, and designs covered by paragraph 1 above, and any U.S. and/or foreign patent applications or extensions thereof embodying same. I further agree that this obligation shall continue after the termination of my employment with Company.
- 3). I agree that unless I have received authorization from Company to do so I shall not either during or after my employment with Company (a) disclose to any third party, (b) use, or (c) publish any information which is secret and confidential to Company. Such information, it is understood, may include, but is not limited to, knowledge and data relating to processes, machines, compounds and compositions, formulas, business plans, and marketing and sales information originated, owned, controlled or possessed by Company and which give Company an opportunity to obtain an advantage over its competitors. I further understand that as a guide I am to consider information originated, owned, controlled, or possessed by Company which is not



disclosed in printed publications stated to be available for distribution outside Company as being secret and Confidential to Company. In instances wherein doubt exists in my mind as to whether information is secret and Confidential to Company, I will request an opinion, in writing, from Company.

4). I agree that items (including but not limited to, products, equipment, data sheets, reports, memoranda, notes, records, plots, sketches, plans and other tangible items) which I possess or to which I am given access to as a direct result of my employment with Company shall at all times be recognized as the exclusive property of Company. I further agree that at no time, without express authorization from Company, shall I make such items available to third parties and that I shall upon leaving the employ of Company, deliver promptly to Company any such items (including copies thereof) which I have in my possession.

5). I agree that Company may make reasonable use of my name, portrait or photograph for advertising and trade purposes.

6). I agree that employment by and the compensation routinely received therefore from Company, and such other compensation as Company may from time to time provide, shall be full consideration and compensation for services performed by me and for inventions, discoveries, improvements, and designs assigned by me to Company hereunder. I further understand that the amount and/or nature of compensation routinely received by me from Company may be changed from time to time without affecting any provision of this agreement.

7). I further understand that the term "Company" as employed herein shall be taken to include Deerpoint Group, Inc. ("DPG") and any and all corporations, which are owned directly through the owners of DPG, including but not limited to Deerpoint Industries, Inc. and J.C. Miller and Associates, Inc. Therefore, for example, the phrase "fields of operation of Company" as employed herein shall include the fields of operation of such related corporations as well as DPG. This agreement, when executed by me, shall inure to the benefit of said corporations and shall continue to be in full force and effect as long as I continue employment with Company.

8). I agree that I may terminate my employment with the Company at any time, with or without reason or notice. The Company may also terminate my employment at any time with or without reason or notice.

9). This agreement is divisible and separable so that, if any provision or provisions hereof shall be held to be invalid, such holding shall not impair the remaining provisions hereof. If any provision hereof is construed to be too broad to be enforced, such provision shall be construed to create only an obligation to the full extent allowable by law.

10). This agreement shall bind me and my heirs, executors, administrators, and personal representatives and the successors and assigns of Company.

11). This agreement shall be construed according to the laws of the state of California.

12). This agreement supercedes all prior agreements, if any, between Company and myself with respect to the matters set forth.

In evidence of my assent to and understanding of the above terms I have signed this agreement, this 9 day of May, 2016.

Eva Kwong  
Employee Signature

Eva Kwong  
Employee Name

By [Signature]  
DPG Executive

HR DIRECTOR  
Title

5/9/16  
Date  
Deerpoint Group, Inc.

# EXHIBIT 3

(12) **United States Patent**  
**Miller et al.**

(10) **Patent No.:** **US 9,856,179 B2**  
(45) **Date of Patent:** **\*Jan. 2, 2018**

(54) **METHOD AND COMPOSITION FOR AGRICULTURAL POTASSIUM-PLUS FERTIGATION**

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**Deborah L. Miller**, Fresno, CA (US)

(72) Inventors: **John C. Miller**, Fresno, CA (US);  
**Deborah L. Miller**, Fresno, CA (US)

(\*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

This patent is subject to a terminal disclaimer.

(21) Appl. No.: **15/059,731**

(22) Filed: **Mar. 3, 2016**

(65) **Prior Publication Data**

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**Related U.S. Application Data**

(63) Continuation-in-part of application No. 14/833,484, filed on Aug. 24, 2015, now Pat. No. 9,474,215, which is a continuation-in-part of application No. 14/564,594, filed on Dec. 9, 2014, now Pat. No. 9,161,489.

(51) **Int. Cl.**

**C05D 1/00** (2006.01)  
**A01C 23/04** (2006.01)  
**C05C 9/00** (2006.01)  
**C05B 7/00** (2006.01)

**C05B 17/00** (2006.01)  
**C05G 3/00** (2006.01)  
(52) **U.S. Cl.**  
CPC ..... **C05C 9/00** (2013.01); **A01C 23/042** (2013.01); **C05B 7/00** (2013.01); **C05B 17/00** (2013.01); **C05D 1/00** (2013.01); **C05G 3/0076** (2013.01)

(58) **Field of Classification Search**  
CPC ..... C05D 1/00; A01C 23/042  
See application file for complete search history.

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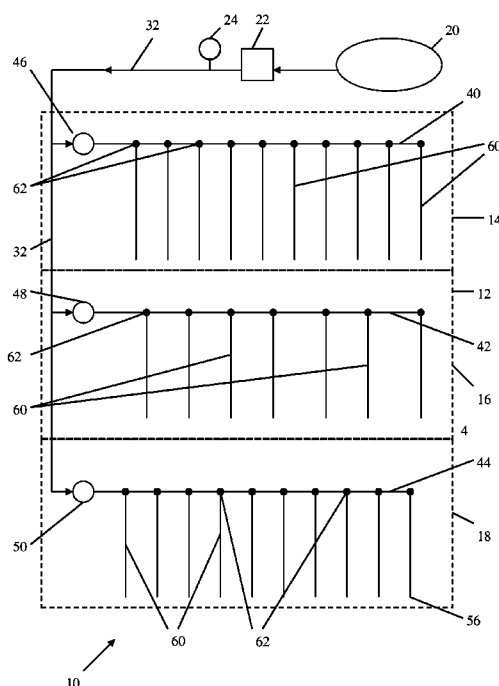
*Primary Examiner* — Wayne Langel

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Central California IP Group, P.C.

(57) **ABSTRACT**

An agricultural potassium-fertigation method for emitter-irrigation potassium-plus fertigation feeds a potassium-plus nutrient feedstock comprised of potassium formate and additional yield-assist constituent(s) and water to an active emitter-irrigation system discontinuously, at levels of 0.15 to 50 gal./min, during one to six nonconsecutive irrigation days during a crop cycle.

**20 Claims, 3 Drawing Sheets**





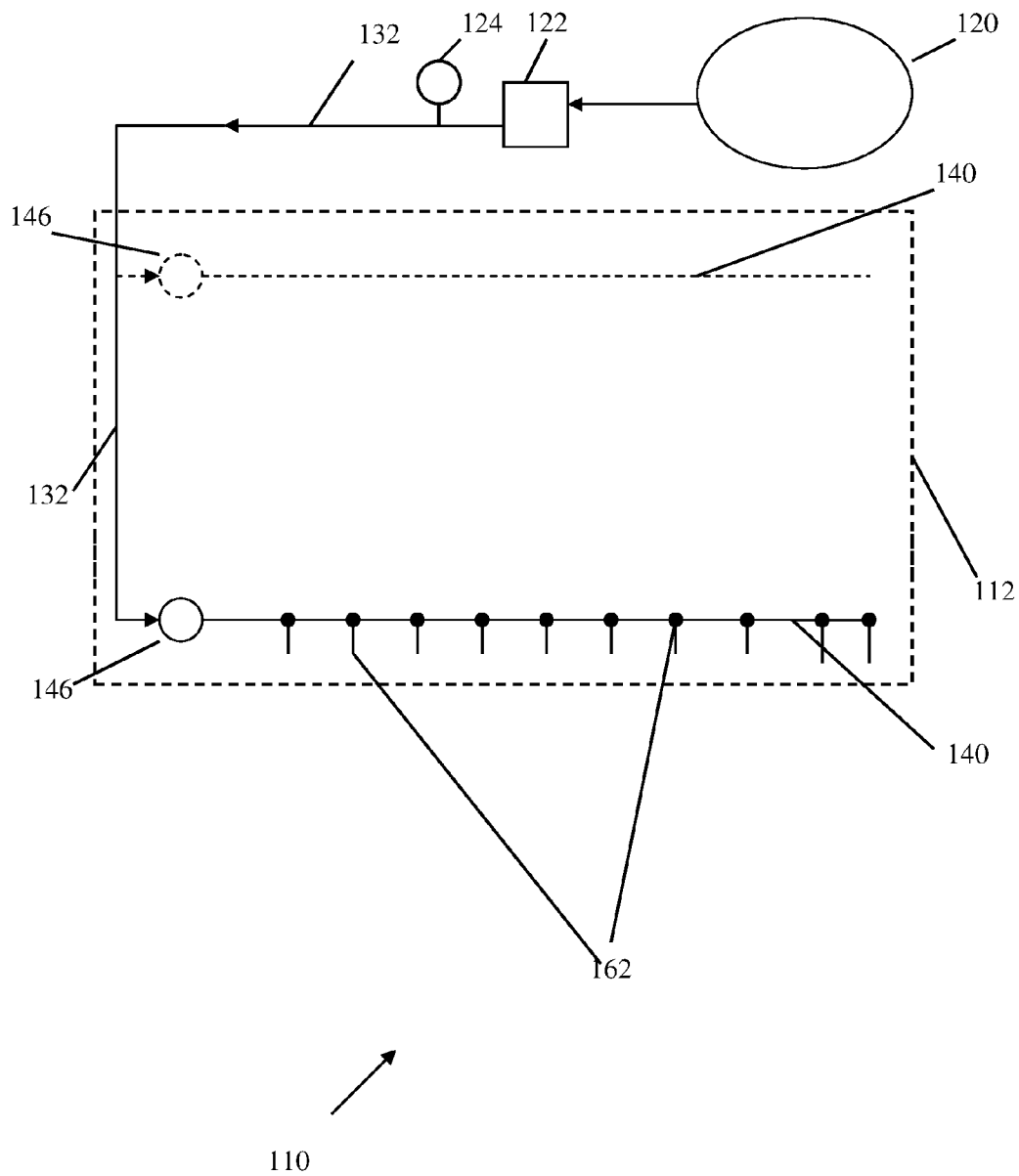


Fig. 2

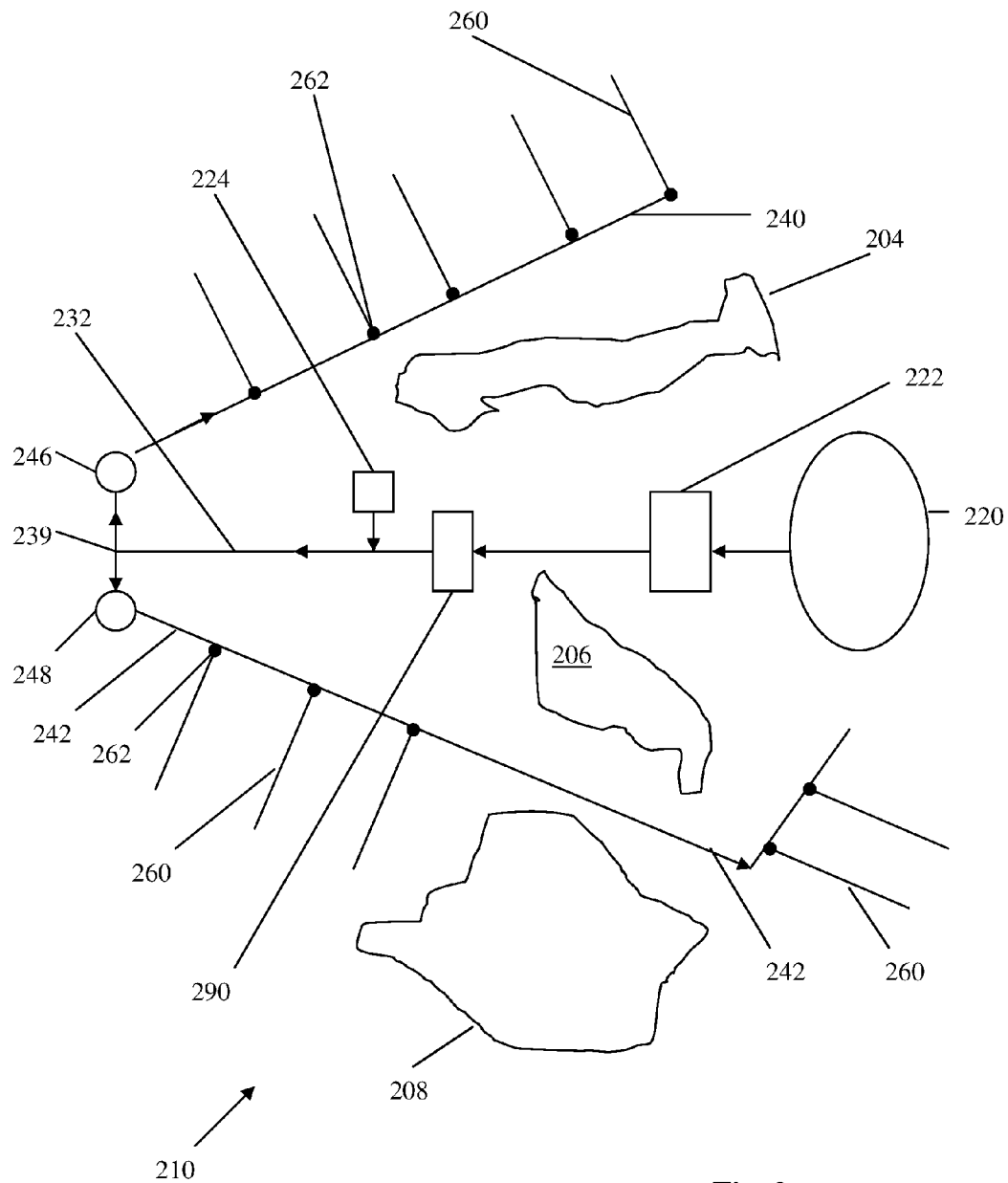


Fig. 3



US 9,856,179 B2

1

# **METHOD AND COMPOSITION FOR AGRICULTURAL POTASSIUM-PLUS FERTIGATION**

## **BACKGROUND OF THE INVENTION**

The present invention relates to methods for fertilization by adding fertilizer nutrients to agricultural irrigation systems.

The agriculture industry adds fertilizers to the plant environs, such as the soil, to enhance crop growth and subsequent yields. Commercial fertilizers are usually selected of a variety of formulations depending on the crop and its nutrient requirements.

Fertilizers generally are classified according to their NPK content. NPK is common terminology used in the fertilizer industry and stands for: (1) N—the amount of nitrogen in the formulation as N; (2) P—the amount of phosphorus in the formulation as  $P_2O_5$ ; and (3) K—the amount of potassium in the formulation as  $K_2O$ . Nitrogen, phosphorus and potassium are the basic plant nutrients or macronutrients that are taken up and utilized by the growing crops, and they are commonly provided or augmented by the addition of fertilizers (NPK fertilizers).

A fertilizer, as that term is used herein and as generally understood, refers to the nutrient-containing materials used to deliver fertilizer nutrients to a crop. Conventional fertilizers typically will contain materials that are extraneous to the crop's nutrient-uptake and soil condition ("yield-extraneous constituents") but which, for practical and/or other reasons, are necessary to the delivery of the nutrients. The process of delivering fertilizer nutrients to crops is referred to as fertilization.

The fertilization method of adding fertilizers to the water being used to irrigate the crops is called "fertigation", reflecting this combination of irrigation and fertilization. Fertigation reduces equipment, fuel and labor expended in the addition of fertilizers in comparison to mechanical delivery of fertilizers to the crop, and thus fertigation achieves a significant overall cost savings.

To conserve water, which is decreasing in availability and increasing in cost, current conventional technology includes micro-irrigation systems that deliver precise amounts of water directly to the soil holding the root system of the plant that is being grown. In the past twenty to thirty years, a large percentage of crop producers in the western and southwestern United States have converted from flood and sprinkler irrigation systems to micro-irrigation technology. Micro-irrigation systems contain devices called emitters, micro-sprinklers or other such devices that provide the precise amounts of water directly to the desired soil site, namely the soil holding the roots of the plant or crop being irrigated.

Micro-irrigation systems are sensitive to water quality and the inclusion of fertilizers and other additives stemming from the refinement of their micro components. These emitters, micro-sprinklers or other micro devices have very tiny orifices and/or a long tortuous narrow passageway that provide the requisite pressure for delivery of precise amounts of water in a uniform manner to each plant in the crop being irrigated so long as deposits do not build up inside them. Deposits from any source foul or plug these micro components. The smallest particle or foreign material can cause fouling of these devices. Water quality and the inclusion of fertilizers can, and frequently does, cause severe plugging problems. The problems arise from a number of factors: (1) the irrigation water is typically obtained from wells, reservoirs, canals, lakes, or rivers which contain

2

various amounts of dissolved minerals; and (2) fertilizers can form insoluble salts and/or cause particulate formation when added to the water. Macro-irrigation systems (macro-sprinkler irrigation systems) mainly tolerate these conditions, while micro-irrigation systems are extremely intolerant.

In more detail, the addition of conventional fertilizer formulations to irrigation water normally increases the loading of inorganic salts over that already in the water. When the loading, or the combined loading, is too high, the solubilities of at least some of the naturally-occurring irrigation-water minerals and/or added compounds are exceeded and particulate formation increases dramatically. When particulates form, significant deposits begin to build up throughout the irrigation system. The end result for emitters or micro-sprinklers is plugging.

Plugging results in uneven distribution of water and nutrients to the crop being irrigated, and in some cases, the complete shut-down of the micro-irrigation system. Problem-free use of additives such as fertilizers in micro-irrigation systems is normally seen only in irrigation systems that use relatively pure water sources.

The conventional agricultural practice is to make intermittent or periodic applications of fertilizers. Such intermittent or discontinuous additions might be a single addition, or a plurality of additions, of large amounts (high concentrations) of fertilizer during a brief time interval each growing season or crop cycle. (The number of applications per growing season or crop cycle usually depends on the crop and/or the type of fertilizer being added.) When the fertilizer-delivery method is fertigation, fertilizers are typically slug fed into the irrigation system as quickly as possible to minimize the labor requirements and ease material handling. Slug feeding of a block (portion of a field) normally entails feeding the large amounts (high concentrations) of fertilizer to the irrigation water over a six to seven hour period during irrigation, and then, after the fertilizer feed is shut off, continuing the irrigation of that block for an additional two to three hours to rinse out all of the fertilizer that is contained inside the irrigation system, insuring that all of the fertilizer intended for the block is in fact delivered to the block. When an entire field is irrigated on a single day, slug feeding does not require a post-fertigation rinsing period.

The cost of commercial fertilizer formulations is, however, itself significant, and commercially viable fertilizer formulations (formulations sufficiently inexpensive for bulk agricultural use) typically include, as mentioned above, yield-extraneous constituents which do not contribute to plant nutrition or soil condition, and can even be undesirable components. Further, the bulk weight of commercial fertilizer formulations typically is water which increases the shipping costs. The water of a fertilizer formulation might be deemed to be analogous to, or at least approach being, a yield-extraneous constituent because its contribution to the water requirements of a crop normally is negligible, it is however not in fact extraneous and therefore herein is neither categorized as a yield-assist or yield-extraneous constituent.

The terms "micro-irrigation" and "macro-irrigation" as used herein refer respectively to (1) micro-sprinklers, drip, and subsurface drip systems and (2) sprinkler systems without micro components which are primarily overhead sprinklers. The terms "overhead sprinkler" and "overhead sprinklers" as used herein refer to irrigation systems in which the irrigation water is emitted or sprayed from sprinkler heads, nozzles or other irrigation devices disposed at a position elevated from ground level, that normally (but not

US 9,856,179 B2

3

necessarily) are engaged directly above the crop being irrigated. Overhead sprinkler irrigation systems are normally macro-irrigation systems because micro-irrigation normally depend on a close proximity between the emitters and soil immediate the crop while overhead sprinklers are normally spaced apart from the soil immediate the crop. Such micro- and macro-irrigation systems are collectively referred to herein as “emitter-irrigation” systems because they each emit or eject sequential small quantities of irrigation water from irrigation lines or tubes directed more or less towards the crop being irrigated.

#### SUMMARY OF THE INVENTION

As stated in U.S. Pat. No. 9,161,489, Method and Composition for Agricultural Potassium Fertigation, issued Oct. 20, 2015, inventors Miller et al., the contents of which are incorporated herein by reference, its discontinuous emitter-irrigation potassium fertigation does not exclude concomitant addition of other materials, including but not limited to one or more other fertilizers and the like. The present invention provides a method for discontinuous emitter-irrigation potassium-plus fertigation (“discontinuous potassium-plus fertigation”) wherein a potassium-plus nutrient feedstock comprised of potassium formate, at least one non-potassium-formate constituent that is beneficial to the crop’s nutrient-uptake and/or soil condition (“additional yield-assist constituent”), which preferably is a macro-nutrient, and water is charged to an active emitter-irrigation system to form treated irrigation water, wherein the potassium-plus nutrient feedstock has a high potassium-nutrient content, has a high organic carbon content, has a minimal amount of water, has no or negligible essential yield-extraneous constituent such as sulfate, has no essential yield-adverse constituent such as degradable thiosulfate, phosphate when fed under phosphate-precipitation conditions or chloride and has no constituent that could aggravate the plugging potential of treated irrigation water. In preferred embodiments, particularly with respect to micro-irrigation systems, concomitant addition of other materials is limited to materials having molecular weights that do not exceed 1,000 as charged or as developed within the irrigation system.

#### BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWINGS

FIG. 1 is a schematic drawing of an irrigation system using the method of the present invention.

FIG. 2 is a schematic drawing of an irrigation system using the method of the present invention.

FIG. 3 is a schematic drawing of an irrigation system using the method of the present invention.

#### DETAILED DESCRIPTION OF THE INVENTION

##### Discontinuous Potassium-Plus Fertigation:

The feeding of the potassium-plus nutrient feedstock to the irrigation water is intermittent or discontinuous. By a discontinuous feeding of potassium-plus nutrient feedstock (or slug feeding of potassium-plus nutrient feedstock) is meant herein that the potassium-plus nutrient feedstock is fed to a given agricultural field, which can be a block in a multi-block field, on from one to six nonconsecutive days during a crop cycle. Further, the potassium-plus nutrient feedstock is preferable fed to the irrigation system for a time

4

period of from 1 to 9 hours on a given potassium-plus fertigation day during which time the irrigation system is active (at its full or normal operating pressure which is from about 10 to 150 psi depending on the system).

##### The Potassium-Plus Nutrient Feedstock

The method of the present invention, namely the method for potassium-plus fertigation by charging a potassium-plus nutrient feedstock comprised of potassium formate, at least one additional yield-assist constituent and water to the irrigation system, is drastically advantageous because the feedstock has a high potassium-nutrient content, has a high organic carbon content, has at least one additional yield-assist constituent, which preferably is a macro-nutrient, has a low or minimal amount of water, has no essential yield-extraneous constituent such as sulfate, has no yield-adverse constituent such as degradable thiosulfate, phosphate when fed under phosphate-precipitation conditions or chloride, and its low water content reduces shipping, storage and handling costs. It has no cations or anions (such as unstable phosphate as mentioned above) that increase the deposit-forming load of the irrigation water to which it is fed. Such anions or cations, and other adverse constituents such as degradable thiosulfate, are typically present in commercial fertilizers because they are needed for the delivery of the nutrient or for other reasons tied to the respected formulation; in other words, they are essential yield-adverse constituents with respect to those formulations.

The present method for discontinuous potassium-plus fertigation in preferred embodiments adds a potassium-plus nutrient feedstock comprised of potassium formate and, as the additional yield-assist constituent, a source of nitrogen plant nutrient. In other preferred embodiments, the potassium-plus nutrient feedstock is comprised of potassium formate and, as additional yield-assist constituents, both a source of nitrogen plant nutrient and a source of phosphorus plant nutrient. In further preferred embodiments, the potassium-plus nutrient feedstock includes one or more sources of the micro-nutrients zinc, copper, iron and/or manganese, all of which micro-nutrients are additional yield-assist constituents. In other preferred embodiments, the potassium-plus nutrient feedstock further includes formic acid which has a high organic carbon content and lowers the pH of the feedstock, and thus itself is an additional yield-assist constituent.

##### Example 1, Feedstock 1

To 35.71 parts of a 75 wt. percent aqueous potassium formate solution is added, with mixing, 32.19 parts of water and 32.10 parts urea whereby a stable potassium-plus nutrient feedstock is formed. This feedstock is a 15-0-15 NPK fertilizer.

##### Example 2, Feedstock 2

To 28.60 parts of a 75 wt. percent aqueous potassium formate solution is added, with mixing, 39.02 parts of water, 25.71 parts urea and 6.67 parts of zinc disodium EDTA (C<sub>10</sub>H<sub>12</sub>N<sub>2</sub>Na<sub>2</sub>O<sub>8</sub>Zn, 15% as Zn) whereby a stable potassium-plus nutrient feedstock is formed. This feedstock is a 12-0-12 NPK with 1.0% Zn fertilizer.

##### Example 3, Feedstock 3

To 28.60 parts of a 75 wt. percent aqueous potassium formate solution is added, with mixing, 38.00 parts of water, 25.71 parts urea and 7.69 parts of iron sodium EDTA

## US 9,856,179 B2

5

(C<sub>10</sub>H<sub>12</sub>N<sub>2</sub>NaO<sub>8</sub>Fe, 13% as Fe) whereby a stable potassium-plus nutrient feedstock is formed. This feedstock is a 12-0-12 NPK with 1.0% Fe fertilizer.

## Example 4, Feedstock 4

To 28.60 parts of a 75 wt. percent aqueous potassium formate solution is added, with mixing, 39.00 parts of water, 25.71 parts urea and 6.67 parts of copper disodium EDTA (C<sub>10</sub>H<sub>12</sub>N<sub>2</sub>NaO<sub>8</sub>Cu, 15% as Cu) whereby a stable potassium-plus nutrient feedstock is formed. This feedstock is a 12-0-12 NPK with 1.0% Cu fertilizer.

## Example 5, Feedstock 5

To 28.60 parts of a 75 wt. percent aqueous potassium formate solution is added, with mixing, 31.33 parts of water, 25.71 parts urea, 3.33 parts of zinc disodium EDTA, 3.33 parts copper disodium EDTA, 3.85 parts of iron sodium EDTA and 3.85 parts of manganese disodium EDTA whereby a stable potassium-plus nutrient feedstock is

6

## Example 7, Feedstock 7

To 14.28 parts of a 75 wt. percent aqueous potassium formate solution is added, with mixing, 31.69 parts of water, 12.86 parts urea, 33.13 parts of 75% phosphoric acid (H<sub>3</sub>PO<sub>4</sub>), 7.18 parts formic acid and 1 part of a threshold inhibitor whereby a stable potassium-plus nutrient feedstock is formed. This feedstock is a 6-18-6 NPK fertilizer.

The constituents of feedstocks of Examples 1-7 are set forth below in Table 1 wherein the organic material derived from urea (determined by the amount of urea less the nitrogen thereof) is shown as an additional yield-assist constituent because organic materials stimulate microbial activity in the soil. The EDTA and threshold inhibitor (such as ATMP or EDTA) also contribute organic material which is not quantified in Table 1 but instead is reflected by indicating that certain of the additional yield-assist constituents are greater than those quantified. Further, nitrogen sources other than urea and DAP (such as ammonia and ammonium nitrate) can be used but are not preferred.

TABLE 1

Constituent	Feedstock # and NPK						
	1	2	3	4	5	6	7
(Parts by wt. per 100 parts by wt.)							
Potassium Formate (HCO <sub>2</sub> K)	26.78	21.45	21.45	21.45	21.45	14.30	10.71
K (as K <sub>2</sub> O) from (HCO <sub>2</sub> K)	15	12	12	12	12	8	6
Organic Carbon from (HCO <sub>2</sub> K)	3.82	3.06	3.06	3.06	3.06	2.04	1.53
Additional Yield-Assist Constituent							
N (as N)	15	12	12	12	12	8	6
P (as P <sub>2</sub> O <sub>5</sub> )	—	—	—	—	—	8	18
Zn	—	1	—	—	0.5	—	—
Cu	—	—	—	1	0.5	—	—
Fe	—	—	1	—	0.5	—	—
Mn	—	—	—	—	0.5	—	—
Total Acid	—	—	—	—	—	4.04	30.23
Organic from Urea	17.1	13.7	13.7	13.7	13.7	6.9	6.9
Total Add. Yield-Assist Const.	32.1	>26.7	>26.7	>26.7	>27.7	>26.94	>61.13
Total Water	41.12	46.17	45.15	46.17	38.48	58.39	45.34
Yield-Extraneous Constituents	none	none	none	none	none	none	none
Yield-adverse Constituents	none	none	none	none	none	none	none
Constituents of MWt. > 1,000	none	none	none	none	none	none	none

formed. This feedstock is a 12-0-12 NPK with 0.5 Zn, 0.5% Cu, 0.5% Fe and 0.5% Mn fertilizer.

## Example 6, Feedstock 6

To 19.06 parts of a 75 wt. percent aqueous potassium formate solution is added, with mixing, 52.27 parts of water, 12.85 parts urea, 9.43 parts of DAP (di-ammonium phosphate, (NH<sub>4</sub>)<sub>2</sub>HPO<sub>4</sub>, which itself is an 18-4-0 NPK fertilizer), 5.39 parts of 75% phosphoric acid (H<sub>3</sub>PO<sub>4</sub>) and 1 part of a threshold inhibitor whereby a stable potassium-plus nutrient feedstock is formed. This feedstock is an 8-8-8 NPK fertilizer.

As shown in the above Examples 1-7, Table 1 and comments, the preferred sources of nitrogen are urea, di-ammonium phosphate (DAP), ammonia and ammonium nitrate (and more preferably urea and di-ammonium phosphate) and the preferred sources of phosphorus are phosphoric acid and di-ammonium phosphate. The primary source of organic carbon is potassium formate and the organic carbon (which can be also expressed as organic material) content is also shown augmented by organic carbon from formic acid, urea and other organics (such as EDTA).

In preferred embodiments, the potassium-plus nutrient feedstock is comprised of from 10 to 50 weight percent

potassium formate and from 1 to 35 weight percent additional yield-assist constituent(s), and more preferably from 5 to 35 weight percent potassium formate and from 5 to 35 percent additional yield-assist constituent(s) which preferably are selected from the group consisting of N (as N), P (as P<sub>2</sub>O<sub>5</sub>), Zn, Cu, Fe, Mn, and acid. In preferred embodiments that provide substantial levels of a plurality of macro-nutrients, the potassium-plus nutrient feedstock is comprised of from 10 to 35 weight percent potassium formate and from 5 to 35 weight percent additional yield-assist constituent(s) wherein N (as N), P (as P<sub>2</sub>O<sub>5</sub>), acid and combinations thereof comprise from 90 to 100 weight percent of the additional yield-assist constituent(s). In more preferred embodiments, the sources of additional yield-assist N are urea and DAP, the source of additional yield-assist P is phosphoric acid, the sources of additional yield-assist organic carbon is formic acid, the sources of additional yield-assist Zn, Cu, Fe and Mn are respectively zinc disodium EDTA, copper disodium EDTA, iron sodium EDTA and manganese disodium EDTA and the sources of additional yield-assist acid are phosphoric acid, formic acid and combinations thereof.

The potassium-plus nutrient feedstock which is charged to an active emitter-irrigation system to form treated irrigation water therefore has a high potassium-nutrient content, has a high organic carbon content (which is some embodiments is derived also from formic acid), has a minimal amount of water (from 35 to 65 weight percent), has a minimal amount of non-water yield-extraneous constituent(s) (from 1 to 40 weight percent), has no essential yield-adverse constituent and has no essential constituent with a molecular weight (MWt.) greater than 1,000 or precursor thereto (in other words, no constituent that will exceed 1,000 MWt as charged or as developed within the irrigation system).

Further, in preferred embodiments, the potassium-plus nutrient feedstock is charged to the irrigation system at levels sufficient to provide a concentration of from 50 to 20,000 ppm of potassium as K<sub>2</sub>O in said treated irrigation water, and more preferably from 100 to 10,000 ppm of potassium as K<sub>2</sub>O in said treated irrigation water.

Further, in other preferred embodiments, the potassium-plus nutrient feedstock is charged to the irrigation system at an addition rate of from 0.15 to 50 gal./min., and more preferably at an addition rate of from 0.5 to 20 gal./min., and at an addition rate of from 0.15 to 50 gal./1,000 gal. irrigation water, and more preferably at an addition rate of from 0.5 to 20 gal. 1,000 gal. irrigation water.

In contrast, the most basic (simple) sources of potassium used in conventional agricultural fertigation are potassium sulfate and potassium thiosulfate. Potassium sulfate is soluble only up to 5% potassium as K<sub>2</sub>O (a 0-0-8 NPK fertilizer). Potassium thiosulfate (a 0-0-25 NPK fertilizer) has a higher solubility than potassium sulfate (but still far lower than the present invention) but it is expensive and, since the sulfur of thiosulfate is not in its highest oxidation state, it is at risk of decomposition and precipitation, which leads to fouling of the irrigation system and impaired irrigation. (No oxidants, such as chlorine, can be used in the irrigation system at or about the same time as potassium thiosulfate.) Potassium nitrate, another potassium source, is very soluble but (a) its distribution is restricted or prohibited by laws and/or regulations because of security risks associated with its nitrate content and (b) it is prohibitively expensive.

The treated irrigation water formed by the method of the present invention preferably will have from 50 to 20,000 ppm potassium as K<sub>2</sub>O and from 50 to 15,000 ppm addi-

tional yield-assist constituent(s), preferably selected from the group consisting of N (as N), P (as P<sub>2</sub>O<sub>5</sub>), Zn, Cu, Fe, Mn, acid and combinations thereof, and more preferably wherein from 90 to 100 weight percent of the additional yield-assist constituent(s) are selected from the group consisting of N (as N), P (as P<sub>2</sub>O<sub>5</sub>), acid and combinations thereof. In other preferred embodiments, the treated irrigation contains from 100 to 10,000 ppm potassium as K<sub>2</sub>O and from 100 to 7,500 ppm additional yield-assist constituent(s) preferably selected from the group consisting of N (as N), P (as P<sub>2</sub>O<sub>5</sub>), Zn, Cu, Fe, Mn, acid and combinations thereof and water and more preferably wherein from 90 to 100 weight percent of the additional yield-assist constituent(s) are selected from the group consisting of N (as N), P (as P<sub>2</sub>O<sub>5</sub>), acid and combinations thereof. In other preferred embodiments, wherein the additional yield-assist constituent (s) are selected from the group consisting of N (as N), P (as P<sub>2</sub>O<sub>5</sub>), Zn, Cu, Fe, Mn, acid and combinations thereof, from 90 to 100 weight percent of the additional yield-assist constituent(s) are selected from the group consisting of N (as N) derived from the group consisting of urea, di-ammonium phosphate and combinations thereof, P (as P<sub>2</sub>O<sub>5</sub>) derived from phosphoric acid, acid selected from the group consisting of phosphoric acid and formic acid and combinations thereof.

The potassium-plus nutrient feedstock is charged to an irrigation system by feeding it to the irrigation water flowing through a main line of an irrigation system (that is, directly charging to a main line of an irrigation system) downstream of any irrigation-system filters and upstream of the delivery points of the irrigation system.

The method of discontinuous emitter-irrigation fertigation of the present invention is carried out at an agricultural field that irrigated as an entirety when irrigation is conducted or is irrigated in sections or portions referred to as blocks. Every emitter-irrigated agricultural field is comprised of blocks, which are either a single block when the field is irrigated as an entirety or a plurality (two or more) of blocks. Referring to FIG. 1, there is shown a schematic illustration of an emitter irrigation system, which can be either a micro-irrigation system or a stationary overhead irrigation system, which is designated by the general reference number 10. The irrigation system 10 provides irrigation water to the grower's field 12, shown in phantom in FIG. 1. Upstream of the field 12 is a source of irrigation water (reservoir 20) and an irrigation pump 22 (irrigation pumping station) which pumps irrigation water from the water source 20 through the main line 32. The field 12 is comprised of three portions or blocks, namely a first block 14, a second block 16 and a third block 18, each of which is shown in phantom in FIG. 1. Each block is serviced by a lateral irrigation line, namely a first lateral line 40, a second lateral line 42 and a third lateral line 44. Irrigation water flow to each lateral line 40, 42, 44 is controlled by a shut-off valve, namely a first shut-off valve 46, a second shut-off valve 48 and a third shut-off valve 50, each neighboring the intersection of the respective lateral line with the main irrigation line 32. Under normal operating conditions, only one of the shut-off valves 46, 48, 50 would be open, and only one of the blocks 14, 16, 18 would be undergoing irrigation, at any given time. Each block has a plurality of irrigation lines 60 branching of the respective lateral line and stretching out along the crops (not shown) in the respective block. Each irrigation line 60 has a plurality of emitters (not shown) at which irrigation water is delivered to the crops. At the intersection of each irrigation line 60 and the respective lateral line from which it stems is a riser 62. Each riser 62 is a small shut-off valve permitting the halting



US 9,856,179 B2

9

of water flow to its respective irrigation line 60 without curtailing water flow to the remaining irrigation lines 60 in the respective block. Downstream of pump 22, and upstream of the field 12 (and of course upstream of each of the blocks 14, 16, 18 which comprise the field 12) is a feed station 24 at which the feedstock is fed to the irrigation water, converting the irrigation water into treated irrigation water.

Referring to FIG. 2, there is shown a schematic illustration of an emitter irrigation system, which in this instance is a mobile overhead emitter irrigation system, and which is designated by the general reference number 110. The irrigation system 110 provides irrigation water to the grower's field 112 (shown in phantom in FIG. 2). Upstream of the field 112 is a source of irrigation water (reservoir 120) and an irrigation pump 122 (irrigation pumping station) which pumps irrigation water from the reservoir 120 through a flexible main line 132. This field 112 is serviced by a mobile elevated lateral irrigation line 140. Irrigation water flow to lateral line 140 is provided through a line connector 146 at an end of lateral line 140 which accepts a connection with the flexible main irrigation line 132. The flexible main irrigation line 132 preferably has a shut-off valve (not shown). The mobile lateral line 140 has a plurality of emitters 162 (irrigation delivery points) at which irrigation water is delivered to the crops. Ten emitters 162 are shown in FIG. 2 for simplicity and in actuality a typical mobile lateral line would have dozens of emitters. The mobile lateral line 140 rolls from position to position along the field 112, for instance from the position far out in the field 112 shown to a near position shown in phantom (in which the emitters 162 are not shown for simplicity), delivering treated irrigation water to the crops (not shown) at each position. Downstream of pump 122 and upstream of the field 112 is a feed station 124 at which the feedstock is fed to the irrigation water, converting the irrigation water into treated irrigation water.

Referring to FIG. 3, there is shown a schematic illustration of an emitter irrigation system designated by the general reference number 210. The irrigation system 210 provides irrigation water to the field under cultivation laid out among hills 204, 206, 208 which themselves are not under cultivation. The source of irrigation water 220 is flanked by hills 204, 206. Irrigation water is drawn from the irrigation water source 220 by a plurality of pumps (not shown) of an irrigation pumping station 222 into a main line 232. The main line 232 branches into two lateral lines, namely the first lateral line 240 and the second lateral line 242. Irrigation water flows to the first and second lateral lines 240, 242 are controlled respectively by the first and second shut-off valves 246, 248, each neighboring the intersection 239 of the lateral lines 240, 242 with the main irrigation line 232. There is a branching of the main line 232 at intersection 239. Each lateral line has a plurality of irrigation lines 260 branching off and stretching out along the crops (not shown). Each irrigation line 260 has a plurality of irrigation delivery points (not shown) at which irrigation water is delivered to the crops. At the intersection of each irrigation line 260 and the respective lateral line from which it stems is a riser 262 (small shut-off valve) permitting the halting of water flow to its respective irrigation line 260. A feedstock delivery system 224 is installed downstream of the irrigation pump 222, and downstream of a filter 290 which filters solid debris out of the irrigation water flowing through the main water line 232.

#### Demonstrative Example 1

The method of the present invention was assessed for use at a 150 acre vineyard having an eight-month crop cycle

10

(February 1 through September 30), a micro-irrigation system, an irrigation water usage of 1.0 ac-ft/acre during the first five months and 1.0 ac-ft/acre during the last three months and an irrigation water flow rate of 1,000 gal./min. **The source of potassium is a potassium-plus nutrient feedstock of the present invention**, which in this instance is Feedstock 1 (a nonconventional 15-0-15 NPK fertilizer), which is slug-fed to the irrigation water during an eight-hour irrigation day on each of March 1, June 15 and September 15 in the respective amounts of 5.4 lbs./acre potassium (as K<sub>2</sub>O) plus 5.4 lbs./acre nitrogen (as N), 3.6 lbs./acre potassium (as K<sub>2</sub>O) plus 3.6 lbs./acre nitrogen (as N), and 5.4 lbs./acre potassium (as K<sub>2</sub>O) plus 5.4 lbs./acre nitrogen (as N), which provides a total amount of 14.4 lbs./acre potassium (as K<sub>2</sub>O) plus 14.4 lbs./acre nitrogen (as N) during the crop cycle. The levels of potassium (as K<sub>2</sub>O) and nitrogen (as N) fed to the irrigation water during each eight-hour slug feeding were each about 803 lb., 536 lb. and 803 lb. respectively which provided levels of potassium (as K<sub>2</sub>O) and nitrogen (as N) in the total 480,000 gallons of treated irrigation water of 201 ppm, 134 ppm and 201 ppm respectively. The feed rates of the potassium-plus nutrient feedstock were about 0.85 gallons/min., 0.57 gallons/min. and 0.85 gallons/min., or with respect to the volume of irrigation water, 0.85, 0.57 and 0.85 gallons feedstock per 1,000 gallons of irrigation water.

#### Demonstrative Example 2

The method of Example 1 is repeated except that the three slug feedings of Feedstock #1 are in the amounts of respectively 10.8 lbs./acre potassium (as K<sub>2</sub>O) plus 10.8 lbs./acre N (as N), 7.2 lbs./acre potassium (as K<sub>2</sub>O) plus 7.2 lbs./acre nitrogen (as N) and 10.8 lbs./acre potassium (as K<sub>2</sub>O), which provided a level of potassium (as K<sub>2</sub>O) in the treated irrigation water of 402 ppm, 268 ppm and 402 ppm respectively. The feed rates of the potassium-plus nutrient feedstock were about 1.7, 1.14 and 1.7 gallons/min. (gallons/1,000 irrigation-water gallons).

#### Demonstrative Example 3

The method of Example 1 is repeated except that the three slug feedings were of Feedstock #6, and each was in the amount of 2.6 lbs./acre of each of potassium (as K<sub>2</sub>O), nitrogen (as N) and phosphorous (as P<sub>2</sub>O<sub>5</sub>), which provided a level of each of potassium (as K<sub>2</sub>O), nitrogen (as N) and phosphorous (as P<sub>2</sub>O<sub>5</sub>) in the treated irrigation water of 96 ppm. The feed rate of the potassium-plus nutrient feedstock was 0.77 gallons/min. or 0.77 gallons/1,000 irrigation-water gallons during each slug feed.

All percentages mentioned herein are percentages by weight. The term "constituent(s)" as used herein includes the singular "constituent" and the plural "constituents".

While the foregoing written description of the invention enables one of ordinary skill in the art to make and use the invention, and to make and use what is presently considered the best mode of the invention, those of ordinary skill in the art will understand and appreciate the existence of variations, combinations and equivalents of the specific embodiments, methods and examples provided herein. The present invention should not be limited by the above described embodiments, methods and examples.

We claim:

1. A method of discontinuous emitter-irrigation potassium-plus fertigation of an agricultural field, said agricultural field being irrigated by means of an active emitter-

US 9,856,179 B2

11

irrigation system having a stream of flowing irrigation water upstream of said agricultural field, said method comprising the steps of:

(step 1) converting said irrigation water to treated irrigation water by charging a potassium-plus nutrient feedstock to said stream of said flowing irrigation water upstream of said agricultural field whereby said irrigation water is converted to treated irrigation water, wherein said potassium-plus nutrient feedstock is comprised of from 10 to 50 wt. percent potassium formate, from 1 to 35 wt. percent additional yield-assist constituent(s) and water;

(step 2) irrigating said agricultural field with said treated irrigation water; and

(step 3) repeating step 1 and step 2 on 0 to 5 nonconsecutive irrigation days over a crop cycle.

2. The method of discontinuous emitter-irrigation potassium-plus fertigation of an agricultural field according to claim 1 wherein said potassium-plus nutrient feedstock is comprised of from 5 to 35 weight percent potassium formate, from 5 to 35 percent additional yield-assist constituent(s) and water, wherein said additional yield-assist constituent(s) are selected from the group consisting of N (as N), P (as P<sub>2</sub>O<sub>5</sub>), Zn, Cu, Fe, Mn, acid and combinations thereof.

3. The method of discontinuous emitter-irrigation potassium-plus fertigation of an agricultural field according to claim 1 wherein said potassium-plus nutrient feedstock is comprised of from 10 to 35 weight percent potassium formate, from 5 to 35 weight percent additional yield-assist constituent(s) and water, wherein from 90 to 100 weight percent of said additional yield-assist constituent(s) are selected from the group consisting of N (as N), P (as P<sub>2</sub>O<sub>5</sub>), acid and combinations thereof.

4. The method of discontinuous emitter-irrigation potassium-plus fertigation of an agricultural field according to claim 1 wherein said potassium-plus nutrient feedstock is comprised of from 10 to 35 weight percent potassium formate, from 5 to 35 weight percent additional yield-assist constituent(s) and water, wherein from 90 to 100 weight percent of said additional yield-assist constituent(s) are selected from the group consisting of urea, di-ammonium phosphate, phosphoric acid and formic acid and combinations thereof.

5. The method of discontinuous emitter-irrigation potassium-plus fertigation of an agricultural field according to claim 1 wherein said emitter-irrigation system is a micro-irrigation system.

6. The method of discontinuous emitter-irrigation potassium-plus fertigation of an agricultural field according to claim 1 wherein said emitter-irrigation system is an overhead sprinkler system.

7. The method of discontinuous emitter-irrigation potassium-plus fertigation of an agricultural field according to claim 1 wherein, in step 1, said potassium-plus nutrient feedstock is charged at a rate of 0.15 to 50 gal./min.

8. The method of discontinuous emitter-irrigation potassium-plus fertigation of an agricultural field according to claim 1 wherein, in step 1, said potassium-plus nutrient feedstock is charged at a rate of 0.5 to 20 gal./min.

9. The method of discontinuous emitter-irrigation potassium-plus fertigation of an agricultural field according to claim 1 wherein, in step 1, said charging of said potassium-plus nutrient feedstock provides a concentration of from 50 to 20,000 ppm of potassium as K<sub>2</sub>O in said treated irrigation water.

12

10. The method of discontinuous emitter-irrigation potassium-plus fertigation of an agricultural field according to claim 1 wherein, in step 1, said charging of said potassium-plus nutrient feedstock provides a concentration of from 100 to 10,000 ppm of potassium as K<sub>2</sub>O in said treated irrigation water.

11. The method of discontinuous emitter-irrigation potassium-plus fertigation of an agricultural field according to claim 1 wherein, in step 1, said charging of said potassium-plus nutrient feedstock is continued from 1 to 9 hours during an irrigation day.

12. The method of discontinuous emitter-irrigation potassium-plus fertigation of an agricultural field according to claim 1 wherein, in step 1, said potassium-plus nutrient feedstock is charged at a rate of 0.15 to 50 gal./min. and said charging of said potassium-plus nutrient feedstock provides a concentration of from 50 to 20,000 ppm of potassium as K<sub>2</sub>O in said treated irrigation.

13. The method of discontinuous emitter-irrigation potassium-plus fertigation of an agricultural field according to claim 1 wherein, in step 1, said potassium-plus nutrient feedstock is charged at a rate of 0.5 to 20 gal./min. and said charging of said potassium-plus nutrient feedstock provides a concentration of from 100 to 10,000 ppm of potassium as K<sub>2</sub>O in said treated irrigation water.

14. A treated irrigation water comprising a potassium-plus nutrient feedstock and irrigation water, wherein said potassium-plus nutrient feedstock is comprised of from 10 to 50 wt. percent potassium formate and from 1 to 35 wt. percent additional yield-assist constituent(s).

15. The treated irrigation water according to claim 14 wherein said additional yield-assist constituent(s) are selected from the group consisting of N (as N), P (as P<sub>2</sub>O<sub>5</sub>), Zn, Cu, Fe, Mn, acid and combinations thereof.

16. The treated irrigation water according to claim 14 wherein from 90 to 100 weight percent of said additional yield-assist constituent(s) are selected from the group consisting of N (as N), P (as P<sub>2</sub>O<sub>5</sub>), acid and combinations thereof.

17. A treated irrigation water comprising irrigation water and a potassium-plus nutrient feedstock, wherein said potassium-plus nutrient feedstock is comprised of from 10 to 50 wt. percent potassium formate and from 1 to 35 wt. percent additional yield-assist constituent(s) comprised of irrigation water, from 100 to 10,000 ppm potassium as K<sub>2</sub>O and from 100 to 7,500 ppm additional yield-assist constituent(s).

18. The treated irrigation water according to claim 17 wherein said additional yield-assist constituent(s) are selected from the group consisting of N (as N), P (as P<sub>2</sub>O<sub>5</sub>), Zn, Cu, Fe, Mn, acid and combinations thereof.

19. The treated irrigation water according to claim 18 wherein said additional yield-assist constituent(s) are selected from the group consisting of N (as N), P (as P<sub>2</sub>O<sub>5</sub>), Zn, Cu, Fe, Mn, acid and combinations thereof, and wherein from 90 to 100 weight percent of said additional yield-assist constituent(s) are selected from the group consisting of N (as N), P (as P<sub>2</sub>O<sub>5</sub>), acid and combinations thereof.

20. The treated irrigation water according to claim 18 wherein said additional yield-assist constituent(s) are selected from the group consisting of urea, di-ammonium phosphate, phosphoric acid, formic acid and combinations thereof.

\* \* \* \* \*

# **EXHIBIT 4**

**FILED UNDER SEAL PURSUANT  
TO COURT ORDER DATED  
JANUARY 27, 2020**



**PROOF OF SERVICE**

**STATE OF CALIFORNIA, COUNTY OF SAN MATEO**

At the time of service, I was over 18 years of age and not a party to this action. I am employed in the County of San Mateo, State of California. My business address is 1080 Marsh Road, Menlo Park, CA 94025.

On February 24, 2020, I served true copies of the following document(s) described as **SECOND AMENDED COMPLAINT** on the interested parties in this action as follows:

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and Sean Mahoney*

**BY CM/ECF NOTICE OF ELECTRONIC FILING:** I electronically filed the document(s) with the Clerk of the Court by using the CM/ECF system. Participants in the case who are registered CM/ECF users will be served by the CM/ECF system. Participants in the case who are not registered CM/ECF users will be served by mail or by other means permitted by the court rules.

I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct and that I am employed in the office of a member of the bar of this Court at whose direction the service was made.

Executed on February 24, 2020, at Menlo Park, California.

/s/ Mae Rubida  
Mae Rubida