United States v. Weiqiang Zhang

SSA Sean S. Kim, FBI-Milwaukee

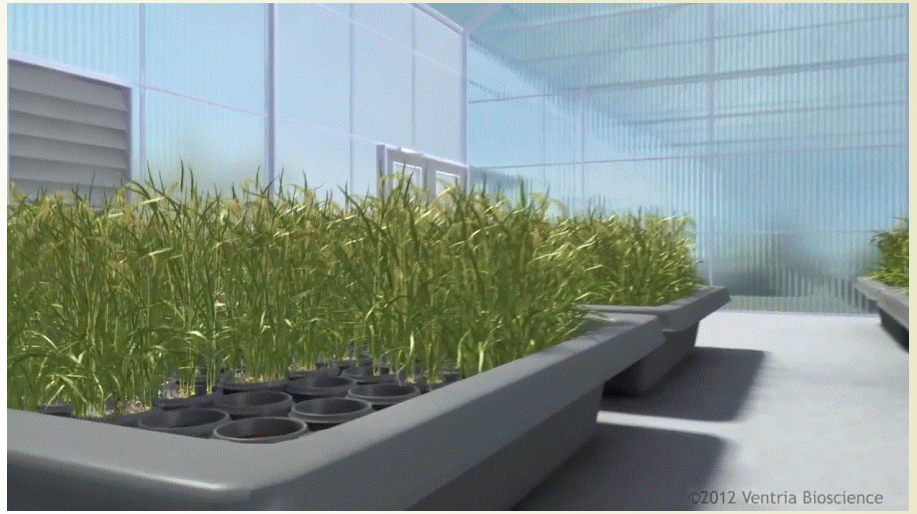
AUSA Scott Rask, Kansas

VENTRIA BIOSCIENCE

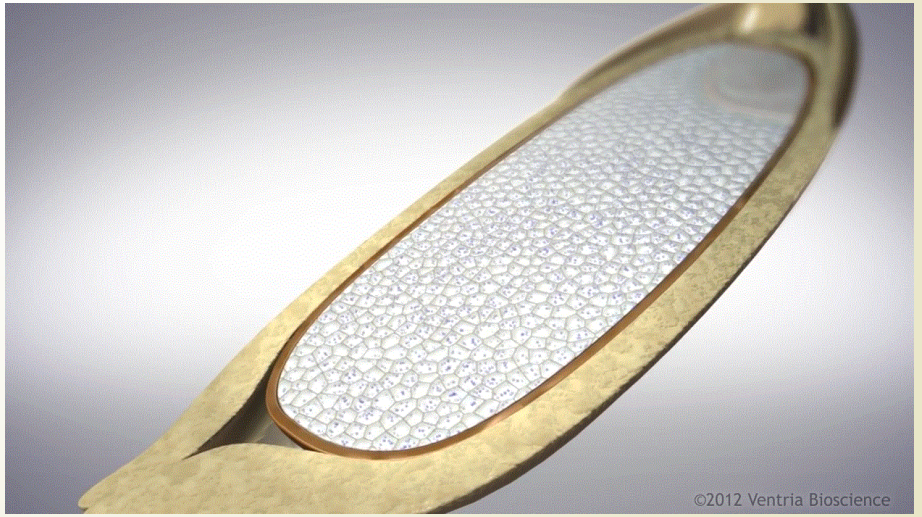
- **Privately held biopharmaceutical company**
  - **Production Facility in Kansas**
- **Developed a factory to produce human proteins, such as HSA (human serum albumin) and LF (lactoferrin) for medical, pharmaceutical, and therapeutic use.**
  - **One of the only companies in the world to use this technology.**

Factory

Rice seeds are grown under highly specialized conditions in a greenhouse or field.



Each of the seeds contains a high volume of the desired protein.



Factory Production

After harvesting, the seeds are cleaned and the protein is extracted and purified.

Final product is extremely pure and animal free.

Ventria's Intellectual Property

- More than 100 patents related to its technology and production methods.
- Considers many other aspects of its specific use of the technology and means of production to be trade secrets.
- Invested over $70 million in the technology and research to develop the factories (seeds).
- Estimates that the world market for its products could ultimately exceed $1 billion.

Weiqiang Zhang

- Bachelor and Master's degrees in Agronomy in China
- Worked for Tianjin Crop Research Institute (TCRI) between 1992 and 2000 as a rice breeder
- Came to the U.S. in 2000
  - 2005: Ph.D. in Rice Genetics, Breeding, and Molecular Biology
  - Certificates of achievement from Tianjin
  - 2008: Started with Ventria as a rice breeder

Offer Letter

ACCEPTANCE OF EMPLOYMENT OFFER

I have received and reviewed a copy of the Employment Offer addressed to me.

I agree to all Terms and Conditions of Employment contained within this Employment Offer.

Further, I agree that this document, in conjunction with the Ventria Employment Handbook, Employee Nondisclosure Agreement and Employee Assignment Agreement, executed by me, sets forth the terms and conditions of my employment with Ventria.

With this understanding, I hereby accept employment with Ventria,

Dated: 08/12/2009

Dr. Weiqiang Zhang

Nondisclosure Agreement

VENTRIA BIOSCIENCE

NONDISCLOSURE TERMS/REMEDIES

A. Nondisclosure Terms

1. Nondisclosure of Work Product

A. Before or During Employment

Without the prior written consent of the President of VENTRIA, employee will not disclose in any manner, to any person or entity, any or all of the notes, data and records of any and all experiments (including reasons therefore, and results thereof), inventions, discoveries, improvements, apparatus, processes, compounds, microbial strains, tissue culture lines, plants, plasmids, nucleotide sequences, pieces of DNA, genetic control elements, formulae, patents, copyrights, trademarks, client lists, customer lists, prospective client or customer lists, or any other intangible rights, observed, made, performed, discovered or secured by employee, or other employees or employees of VENTRIA, solely or jointly with others, or otherwise, at any time after the effective date of the VENTRIA Employment Offer, and before termination of employment with VENTRIA.

Assignment Agreement

VENTRIA BIOSCIENCE

NONDISCLOSURE AGREEMENT
Dr. Weiqlang Zhang

I.

WHEREAS, VENTRIA and employee acknowledge that employee's work results, the results of others, plus the confidential and separate research contracts existing, or sought, between VENTRIA and others, represent: (a) special and unique assets of VENTRIA and its business, and (b) proprietary trade secrets of VENTRIA;

sought, between VENTRIA and others, represent: (a) special and unique assets of
VENTRIA and its business, and (b) proprietary trade secrets of VENTRIA;

WHEREAS, VENTRIA and employee both desire that a nondisclosure agreement be entered into between VENTRIA and employee so as to allow for the protection from non-consented disclosure of the work results and ideas of employee and others, as well as the non-consented disclosure of the details of the confidential contracts to be entered into, or sought to be entered into, by VENTRIA.

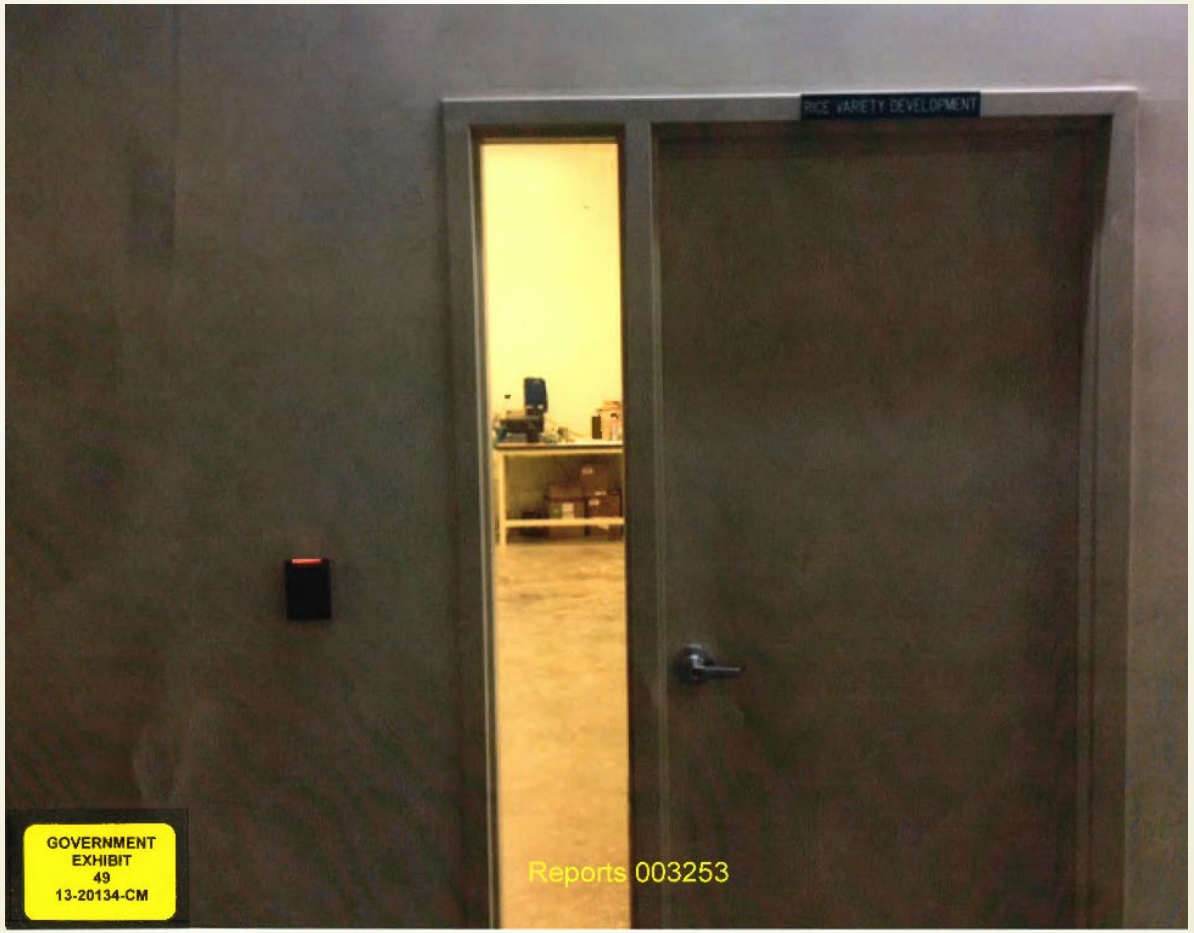
NOW, THEREFORE, in consideration of the making of the RECITALS set forth above, and the making of the Nondisclosure Terms/Remedies, and the making of the Acknowledgment of Receipt and Review of Employee Nondisclosure Agreement, set forth below, and in consideration of the compensation for employment VENTRIA had offered to employee, and in consideration of the confidential employment position VENTRIA has offered to employee, VENTRIA and employee agree as follows:

702 W Drake Rd, Bldg. C, Fort Collins, CO 80526 Phone: 970-407-1239 Fax: 970-472-0500

Seed Vault

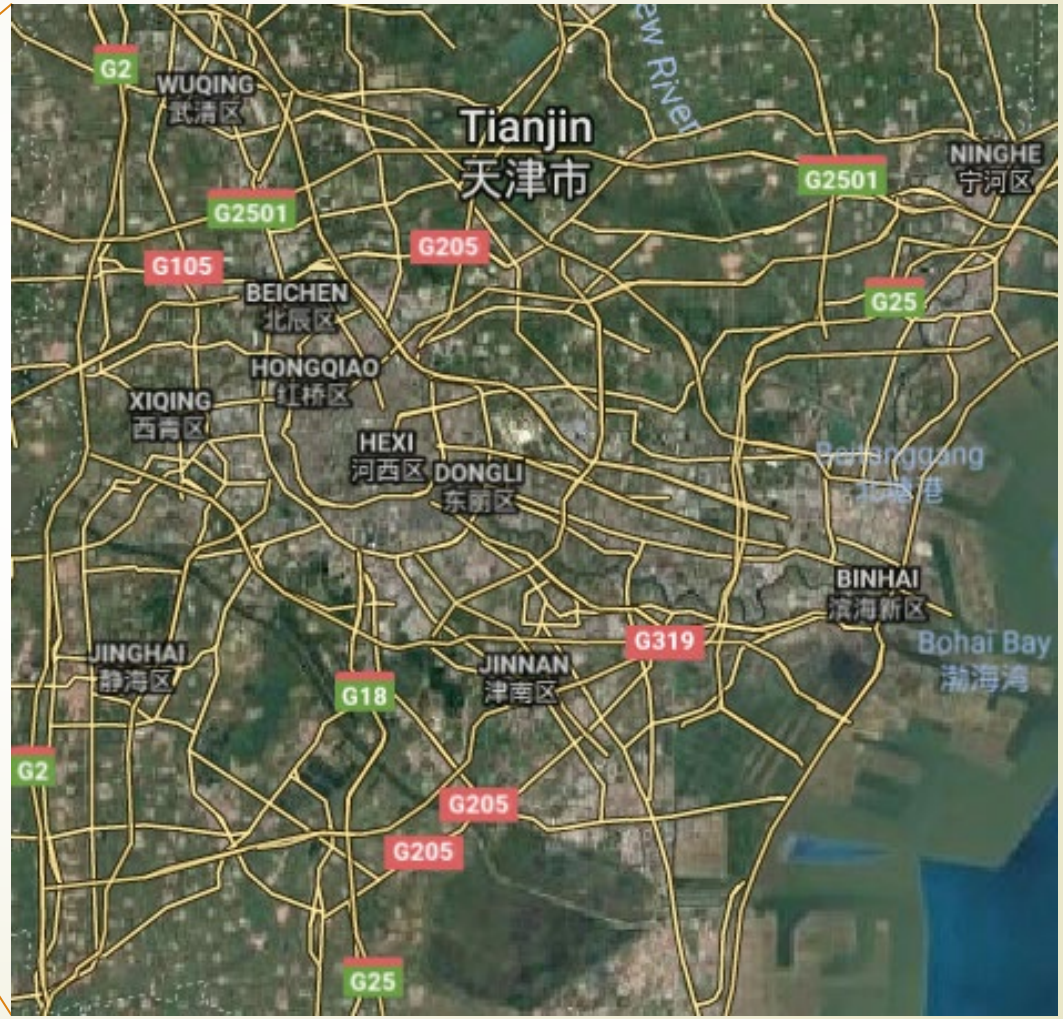
HUMIDITY CONTROLLED
PLEASE KEEP DOOR SHUT
Reports 003255
GOVERNMENT EXHIBIT 51 13-20134-CM

Molecular Genetics Laboratory



Tianjin Crop Research Institute (TCRI)

- Part of the Tianjin Academy of Agricultural Sciences



Latitude: 39.3434° N

Summer 2010 TCRI Visit to the U.S.

From: Weiqiang Zhang
Sent: Tuesday, July 06, 2010 4:34 PM
To: Greg Unruh
Subject: RE: Information about three people from China

From: Weiqiang Zhang
Sent: Tuesday, July 06, 2010 2:32 PM
To: Greg Unruh
Subject: Information about three people from China

Greg,

Thank you for your inquirying the information of three people from China! I fully understand what we have talked on last Friday, and keep my promise that they will not come to our building and our field.

Weiqiang

Thank you for your inquirying the information of three people from China! I fully understand what we have talked on last Friday, and keep my promise that they will not come to our building and our field.

Weiqiang

Summer 2010 TCRI Visit to the U.S.

RE: Information about three people from China

From: Weiqiang Zhang
Sent: Wednesday, July 07, 2010 8:16 AM
To: Greg Unruh
Subject: RE: Information about three people from China

Greg,

Xunjun Liu Rice breeder President Tianjin Crop Research Institute-----Tianjin Rice Research Institute, Tianjin Academy of Agricultural Sciences (TAAS)

Jizhong Wang Wheat breeder Vice president Tianjin Crop Research Institute-----Tianjin Rice Research Institute, Tianjin Academy of Agricultural Sciences (TAAS)

Gang Feng Wheat breeder Tianjin Crop Research Institute-----Tianjin Rice Research Institute, Tianjin Academy of Agricultural Sciences (TAAS)

Can you tell me their names? Thanks!

GOVERNMENT EXHIBIT 59 13-20134-CM

Zhang's Fall 2010 letter to TCRI

Even though I am abroad, the fatherland has remained in my heart. It is an aspiration of mine to one day return to the Tianjin Crop Research Institute - Tianjin Rice Research Institute and selflessly offer up everything I have learned. I am also always thinking of ways to do everything in my power under current conditions for our institute's research on rice and other crops.

focusing my efforts mainly on genetics and breeding of rice, the molecular biology of plants, and breeding using molecular markers. By integrating screening and selection in both the lab and the field, the selective effectiveness of herbicide-resistant genes (chemically induced mutants), genes resistant to rice blast, and genes that control for starch content and gelatinization temperature in rice was significantly increased. For the first time, farmers' rice fields were used to experiment with transferring herbicide-resistant genes from CLEARFIELD RICE into weedy rice under

Recombinant proteins can be used to develop commercial products. In terms of the amount of land used for office space, industrial protein products are 500 times more profitable than commercial grain using the same land area. The company I work for is the only US biotech company that has produced and sold these recombinant protein products made from rice seeds. I hope that our Tianjin, China can achieve this same level of biology R&D in the near future.

and scientists at US biotech companies, absorbing their advanced scientific research technology

Zhang and Yan's Summer 2012 Visit to TCRI

Dear Dr. Yan,

I am Dr. weiqiang Zhang 's collegue , on behalf of our institute, I would like to invite you to visit rice research institute, Academy of agriculture sciences, Tianjin, P. R. of China, during the end of June to early of July in the year of 2012, I wonder what date is available for you? Please inform me after you have decided and I will send you a formally invitation. I look forward to hearing from you soon.

Sincerely yours,

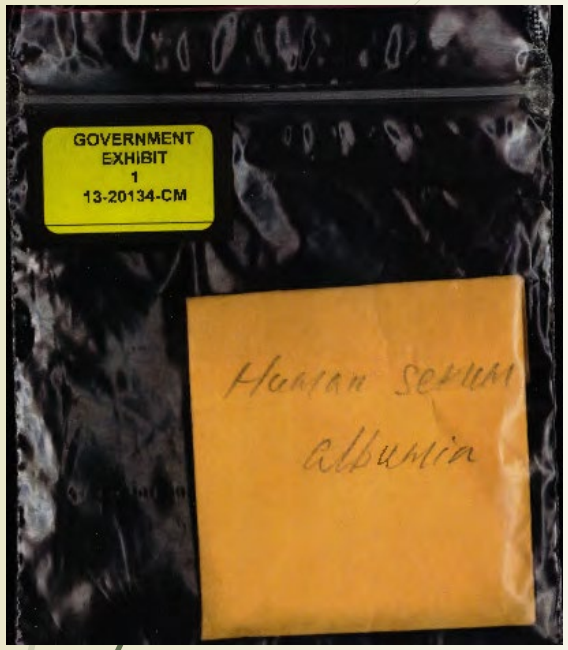
Xuejun Liu

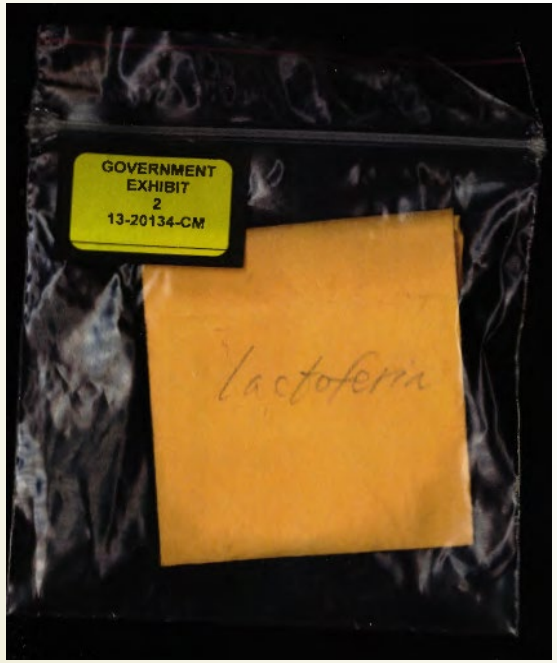
Zhang and Yan's Summer 2012 Visit to TCRI

Summer 2013 TCRI Visit to U.S.

July 17, 2013 dinner at Zhang's residence

Summer 2013 TCRI Visit to U.S.





- CBP border search as delegation boarded flight to China
- Envelopes and makeshift containers containing seeds and identifying markings
- Thumb drive and camera memory cards

Search Warrant at Zhang's Home

December 7, 2013

Search Warrant at Zhang's Home

The Charges

Indictment:

- **Conspiracy to Commit Theft of Trade Secrets *(18 U.S.C. § 1832(a)(5))***
- **Theft of Trade Secrets *(18 U.S.C. §§ 2 and 1832(a)(1))***
- **Conspiracy to Commit Interstate Transport of Stolen Property *(18 U.S.C. §§ 371 and 2314)***
- **Interstate Transport of Stolen Property *(18 U.S.C. §§ 2 and 2314)***

Trial Issues – Protective Orders

Pretrial Orders

- First stipulated pretrial protective order of October 21, 2014, excluded any potential or retained defense expert or consultant (contemplated further negotiation re: experts)

- A second stipulated pretrial protective order dated June 14, 2016, agreed that the defense would notify Ventria of the identity of any potential expert or consultant, and if needed, government to file any objection with the court.
  - Government agreed not to contact the expert/consultant and only conduct investigation to determine if conflict of interest existed.

- Defense prohibited from retaining any expert/consultant who worked for competitor of Ventria, and any retained expert/consultant would be prohibited from working for competitor of Ventria for period of two years following conclusion of trial.

Trial Issues – Protective Orders

Trial Protective Order

- "Trial Protected Material":
  - Trade Secret Information (TSI)
  - Related confidential or proprietary information that may reveal or disclose TSI
- Dismissal of substantive 1832 count → no need to *prove* trade secret status
- Government asked Ws to *identify* several internal Ventria documents
  - Not discussed in detail by Ws
  - Not displayed on the monitors
  - Not ultimately introduced into evidence

Trial Issues – Proving the Trade Secret

The definition of trade secret used in both the original and superseding indictments:

6. Ventria's methods of developing, propagating, growing, cultivating, harvesting, cleaning, and storing these particular rice seeds for cost-effectively producing recombinant proteins from such seeds were protected by Ventria as confidential and proprietary information. Ventria considered this information a trade secret (hereinafter referred to as the Trade Secret Information), which was used in products sold and distributed in interstate or foreign commerce.

Trial Issues – Proving the Trade Secret – Jury Instructions

INSTRUCTION NO. 16

Because the defendant is charged with conspiracy to commit theft of trade secrets, rather than actual theft of trade secrets, the government is not required to prove the information the defendant conspired to steal actually contained trade secrets. Instead, the government must prove the defendant conspired to steal information he believed contained trade secrets, regardless of whether the information actually contained trade secrets.

Trial Issues – Proving the Trade Secret – Jury Instructions

INSTRUCTION NO. 18

I have instructed you regarding the definition of a trade secret. The law also provides that certain information is not a trade secret. First, information that has been disclosed in a patent or published patent application is not a trade secret. Second, information gained as part of the general knowledge and skills or experience that one obtains by or during their tenure with a company is not a trade secret.

Trial Issues – Defense Experts

The defendant disclosed that he may call three experts:

1. **A patent attorney with almost 20 years experience in molecular genetics and six years as a biotech entrepreneur and investor;**

2. **A professor in agricultural and resource economics; and**

3. **An experienced intellectual property attorney and author of the book, "*Trade Secrets, Law and Practice*," LexisNexis 4th ed. 2016.**

After we moved to dismiss the substantive trade secrets count, none of these experts testified.

Result

- **On February 16, 2017, after jury trial, Weiqiang Zhang was convicted on all three remaining counts.**

- **On April 4, 2018, Zhang sentenced to 121 months imprisonment.**

Questions?