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**The Protection for New Plant Varieties of
American Businesses in China After
China Enters the WTO**

by

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THE PROTECTION FOR NEW PLANT VARIETIES OF AMERICAN BUSINESSES IN CHINA AFTER CHINA ENTERS THE WTO

Chengfei Ding

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I. INTRODUCTION

When the trade representatives of China and the United States signed the trade agreement on November 15, 1999, in Beijing, China, a major barrier for China to join the World Trade Organization ("WTO") was removed.¹ With China's accession to the WTO and opening its market to the world, enormous opportunities

1. See Brad L. Bacon, *The People's Republic of China and the World Trade Organization: Anticipating a United States Congressional Dilemma*, 9 MINN. J. GLOBAL TRADE 369, 369 (2000).

for American businesses, including the American agricultural sector, will abound.² However, when American agricultural products go to China, certain legal issues will arise, among those is the protection of intellectual property rights. This note attempts to provide the necessary background information about the WTO, China's accession to the WTO, and the Chinese legal system. It also compares the measures taken under American legal system and its Chinese counterpart for the protection of new plant varieties.

II. BRIEF INTRODUCTION TO THE WTO

As the successor to the General Agreement on Tariffs and Trade ("GATT"), the WTO was one of the results of the Uruguay Round negotiations concluded in 1994.³ GATT was established in the 1940s as an effort to expedite international negotiations for the reduction of tariffs and to promote liberal trade.⁴ In its history of existence, eight rounds of negotiations have been carried out, among which the Uruguay Round was the latest and the most comprehensive.⁵ The Agreement Establishing the World Trade Organization of the Uruguay Round sets the legal basis for the World Trade Organization today.⁶ The Uruguay agreements cover various issues in international trade including the reduction of tariffs and the tariffication of non-tariff trade barriers.⁷ Among other things, the WTO attempts to establish a mechanism to protect intellectual property in the context of international trade.⁸

III. CHINA'S ACCESSION TO THE WTO AND ITS IMPLICATION

China was one of the original members of GATT, but later withdrew from GATT after the Communist Party took power.⁹ When China began its economic reform, however, foreign investment and trade began to play an important role in the Chinese economy, causing Chinese leaders to realize the necessity to rejoin GATT.¹⁰

2. See Jikun Huang & Chunlai Chen, *Trade Liberalization and China's Food Economy in the 21st Century: Implications to China's National Food Security*, at <http://aic.ucdavis.edu/research/rozelle.htm>.

3. See Kevin C. Kennedy, *The GATT-WTO System at Fifty*, 16 WIS. INT'L L.J. 421, 443 (1998).

4. See *id.* at 442.

5. See THE WORLD TRADE ORGANIZATION: THE MULTILATERAL TRADE FRAMEWORK FOR THE 21ST CENTURY AND U.S. IMPLEMENTING LEGISLATION 5, 7 (Terence P. Stewart ed., 1996).

6. See Kennedy, *supra* note 3, at 445-48, 454-57, 474-82.

7. See *id.* at 421.

8. See Robert J. Gutowski, *The Marriage of Intellectual Property and International Trade in the TRIPS Agreement: Strange Bedfellows or a Match Made in Heaven?*, 47 BUFF. L. REV. 713, 714 (1999).

9. See Greg Mastel, *China and the World Trade Organization: Moving Forward Without Sliding Backward*, 31 LAW & POL'Y INT'L BUS. 981, 982 (2000).

10. See *id.*

As a result, in the mid-1980s China initiated serious actions in order to address this concern.¹¹ Progress for China's accession to GATT was slow and complicated by issues that were not purely economic.¹² Even after the WTO was formed, China continued its efforts to join the world trade club.¹³ On November 15, 1999, in Beijing, Chinese and American trade representatives finally signed their trade deal after difficult negotiations.¹⁴ The trade agreement between China and the United States in November 1999 removed a major barrier and paved the way for China to become a member of the WTO.¹⁵

With a population of 1.2 billion and a fast growing economy, the People's Republic of China is finally going to enter the WTO after trying for more than a decade.¹⁶ Despite all the concerns aroused by China's accession to the WTO, both inside and outside China, China is determined to join the world trade club.¹⁷ In fact, without China, which has one-fifth of the population on our crowded planet and the world's second-largest economy, the WTO can hardly be regarded as global.¹⁸

China's accession to the WTO means China will open its markets to the outside world and will require China to commit itself to the international conventions and trading standards set by the WTO.¹⁹ Among the markets to be opened to the world, the market of agricultural products certainly has special significance. The agricultural product's market is highly protected in China because the Chinese government places great emphasis on developing agriculture and realizing food self-sufficiency.²⁰ Agriculture is regarded as the basis of China's economy. In the Four Modernizations Program, the modernization of agriculture is put in first place, ahead of industry, science and technology, and national defense.²¹

11. *See id.*

12. *See id.*

13. *See id.*

14. *See id.* at 981.

15. *See Bacon, supra* note 1, at 369.

16. *See id.* at 370.

17. *See id.* at 445.

18. *See* AGRI-FOOD COUNTRY PROFILE: CHINA, at <http://ats-sea.agr.ca/public/htmldocs/e0097.htm>; *World Trade: Fifty Years On*, THE ECONOMIST, May 16, 1998, at 21.

19. *See generally* Bacon, *supra* note 1, at 369 (discussing conflicts between Chinese law and WTO provisions).

20. *See* Jikun Huang & Chunlai Chen, *Trade Liberalization and China's Food Economy in the 21st Century: Implications to China's National Food Security*, at <http://aic.ucdavis.edu/research/rozelle.htm> (last visited Nov. 12, 2001) (China's "import substitution" strategy is to increase exports while decreasing imports); AGRI-FOOD TRADE SERVICE, AGRI-FOOD COUNTRY PROFILE: CANADA (2000), at <http://ats-sea.agr.ca/public/htmldocs/e0097.htm> (China's decreased imports, fueled by its self sufficiency policy for food, has resulted in decreased exports to that country from Canada).

21. *See* Lester Ross & Libin Zhang, *Agricultural Development and Intellectual Property Protection for Plant Varieties: China Joins the UPOV*, 17 UCLA PAC. BASIN L.J. 226, 226 (2000).

China started its economic reform in the agricultural sector in 1979.²² Since then, agricultural production has increased tremendously.²³ Fast economic growth in the past years has appreciably increased the Chinese people's income and consequently the demand for agricultural products. This increase is reflected by the growing importation of agricultural products by China in order to satisfy this new domestic demand.²⁴ It is foreseeable that in the coming years China's economic growth will continue as well as its demand for agricultural products.

Compared with American agriculture, Chinese agriculture is by no means modern. In China very limited modern technology is applied in the field.²⁵ While American agriculture can be termed land intensive or capital-intensive, Chinese agriculture is predominantly labor-intensive.²⁶ According to the theory of comparative advantage, both China and the United States will benefit from trading with each other because the two countries have different strengths.

When negotiating for the accession to the WTO, China made strong commitments in, "market access, renunciation of export subsidies, tariff rate quotas and other issues."²⁷ When China enters the WTO, it will presumably comply with all the WTO's rules and open its domestic market to foreign agricultural products under the negotiated terms. This will remove most of the present barriers existing between China and the United States in the area of agricultural trade. As a result, American businesses will have easier access to the Chinese market.

At present, China is a significant importer of agricultural products. For example, in 1996 China imported 9.4 million tons of grain.²⁸ The World Bank has predicted that China will need to import forty-eighty million tons of grain by 2030 to

22. See generally Jikun Huang & Chunlai Chen, *Trade Liberalization and China's Food Economy in the 21st Century: Implication to China's National Food Security*, at <http://aic.ucdavis.edu/research/rozelle.htm> (last visited Nov. 12, 2001) (recognizing that since reform started in the late 1970s, China's foreign trade has experienced rapid growth).

23. See generally Jikun Huang & Chunlai Chen, *Trade Liberalization and China's Food Economy in the 21st Century: Implication to China's National Food Security*, at <http://aic.ucdavis.edu/research/rozelle.htm> (last visited Nov. 12, 2001) (recognizing rapid growth in China's agricultural trade - six percent annual growth rate between 1979 and the 1990s).

24. See Jikun Huang & Chunlai Chen, *Trade Liberalization and China's Food Economy in the 21st Century: Implication to China's National Food Security*, at <http://aic.ucdavis.edu/research/rozelle.htm> (last visited Nov. 12, 2001).

25. See AGRI-FOOD COUNTRY PROFILE: CHINA, at <http://ats-sea.agr.ca/public/htmldocs/eg0097.htm>.

26. See AGRI-FOOD COUNTRY PROFILE: CHINA, at <http://ats-sea.agr.ca/public/htmldocs/eg0097.htm> (stating that fifty-three percent of China's labor force was employed in agriculture or forestry in 1999, over three hundred billion people).

27. Ambassador Peter Scher, *The WTO and America's Agricultural Trade Agenda*, 9 MINN. J. GLOBAL TRADE 1, 7 (2000).

28. See *Agriculture: Grain Becomes Priority for Foreign Investment*, CHINA ECON. REV. (Aug. 1, 1997), available at 1997 WL 181997.

meet its domestic demand.²⁹ Predictably, China will be a major market for foreign agricultural products.

IV. THE LEGAL SYSTEM OF CHINA

Many legal issues are likely to arise when American agricultural products enter the Chinese market because China and the United States have very different cultures and legal systems. The Chinese legal system started with its first dynasty Xia, but the concept of rule of law has never been the dominant philosophy in the Chinese society.³⁰ Generally, Chinese do not like resorting to the court system to resolve disputes; instead, they prefer to settle their disputes by mediation or some other means outside the court system.³¹ Influenced by this tradition, Chinese laws and courts put great emphasis on settlement in civil cases.³²

The primary source of Chinese law is found in China's various codified laws.³³ Unlike the United States where the law is primarily based on the case law, the Chinese legal system follows the civil law tradition.³⁴ This means only the Constitution, statutes and regulations are recognized as authorities in the Chinese courts.³⁵ The 1982 Chinese Constitution affirms that international conventions, treaties and agreements ratified by the People's Congress are part of the legislative system and in cases where the international conventions, treaties and agreements conflict with the domestic laws, the international conventions, treaties and agreements prevail.³⁶

Besides a different legal tradition, China also has a different court system than the United States. Among the various levels of courts in China, the Intermediate People's Court is the lowest court that can hear cases involving a foreign individual or entity.³⁷

29. See *id.*, available at 1997 WL 181997.

30. See Shin-yi Peng, *The WTO Legalistic Approach and East Asia: From the Legal Culture Perspective*, 1 ASIAN-PAC. L. & POL'Y J. 13 (2000), at <http://www.hawaii.edu/aplpj/1/13.html> (last visited Nov. 12, 2001).

31. See Shin-yi Peng, *The WTO Legalistic Approach and East Asia: From the Legal Culture Perspective*, 1 ASIAN-PAC. L. & POL'Y J. 13, at <http://www.hawaii.edu/aplpj/1/13.html> (last visited Nov. 12, 2001).

32. See Shin-yi Peng, *The WTO Legalistic Approach and East Asia: From the Legal Culture Perspective*, 1 ASIAN-PAC. L. & POL'Y J. 13, at <http://www.hawaii.edu/aplpj/1/13.html> (last visited Nov. 12, 2001).

33. See Shin-yi Peng, *The WTO Legalistic Approach and East Asia: From the Legal Culture Perspective*, 1 ASIAN-PAC. L. & POL'Y J. 13 (2000), at <http://www.hawaii.edu/aplpj/1/13.html> (last visited Nov. 12, 2001).

34. See Ann D. Jordan, *Lost in the Translation: Two Legal Cultures, the Common Law Judiciary and the Basic Law of Hong Kong Special Administrative Region*, 30 CORNELL INT'L L. J. 335, 338 (1997).

35. See Weiqiu Long, *Intellectual Property in China*, 31 ST. MARY'S L.J. 63, 67 (1999).

36. See *id.*

37. See Civil Procedural Law of the People's Republic of China, art. 19, § 1 (1991).

V. THE PROTECTION OF INTELLECTUAL PROPERTY IN CHINA

One area that may concern the agricultural trade between China and the United States is the protection of intellectual property. Traditionally, the Chinese culture is antithetical to the granting of property rights to intellectual products, especially inventions.³⁸ Confucian ideology established the belief that scholars should write for moral teaching and not for economic interests.³⁹ When China started its economic reform and opened its door to the world in 1979, Chinese leaders realized that protecting intellectual property would encourage foreign investment, provide stimulus to the development of science and technology, and encourage the exchange of scientific and technological information with other countries.⁴⁰

Based on this perception, since 1979, China has been working towards improving its legal protection for intellectual property, as well as actively participating in international cooperation programs in order to meet the international standards of intellectual property protection.⁴¹ For example, in 1980, China joined the World Intellectual Property Organization.⁴² Five years later, it joined the Paris Convention for the Protection of Industrial Property Rights.⁴³ In the same year, China enacted its own Patent Law,⁴⁴ followed by amendments in 1992.⁴⁵ These amendments occurred as a result of the agreements reached by China and the United States on the protection of intellectual property.⁴⁶ The 1993 revision of Patent Law was also regarded as part of China's effort to join the WTO.⁴⁷ As a result of these efforts, China has joined most of the major international treaties concerning the protection of intellectual property.⁴⁸ An effective protection for foreign intellectual property has been an important factor in China's achieving successful trade relations with the European Union and the United States.⁴⁹

38. See generally John R. Allison & Lianlian Lin, *The Evolution of Chinese Attitudes Toward Property Rights in Invention and Discovery*, 20 U. PA. J. INT'L ECON. L. 735 (1999) (discussing the traditional view of Chinese towards intellectual property).

39. See Leslie Cataldo, *A Dynasty Weaned from Biotechnology: The Emerging Face of China*, 26 SYRACUSE J. INT'L L. & COM. 151, 152 (1998).

40. See Allison & Lin, *supra* note 38, at 753-54.

41. See Michael N. Schlesinger, *A Sleeping Giant Awakens: The Development of Intellectual Property Law in China*, 9 J. CHINESE L. 93, 98 (1995).

42. See *id.*

43. See *id.*

44. See *id.* at 108.

45. See *id.*

46. See *id.*

47. See John Richards, *Recent Patent Law Developments in Asia*, 7 FORDHAM INTELL. PROP. MEDIA & ENT. L.J. 599, 608 (1997).

48. See Schlesinger, *supra* note 41, at 98.

49. See Joseph Straus, *Bargaining Around the TRIPS Agreement: The Case for Ongoing Public-Private Initiatives to Facilitate Worldwide Intellectual Property Transactions*, 9 DUKE J. COMP. & INT'L L. 91, 94-95 (1998).

In 1979, China began to cooperate with the United States regarding the protection of intellectual property when the two countries signed their Bilateral Trade Agreement.⁵⁰ The 1979 Bilateral Agreement provides: "each party shall seek, under its laws and with due regard to international practice, to ensure to legal or natural persons of the other party protection of patents and trademark equivalent to the patent and trademark protection correspondingly accorded by the other party."⁵¹

The relationship between the United States and China regarding intellectual property protection at that time was not a friendly one. The United States frequently accused China of non-application of intellectual property protection laws,⁵² while China criticized the United States for demanding too much.⁵³ After bitter arguments and threats of trade war, however, the two countries reached a series of agreements in 1992 and 1995.⁵⁴

VI. THE PROTECTION OF NEW PLANT VARIETIES IN CHINA

In the area of protecting new plant varieties, China has made considerable progress. However, in contrast to the United States which began granting patent rights to plant varieties in 1930 when it enacted the Plant Act,⁵⁵ China does not grant the same standard of protection to plant varieties.⁵⁶ When China revised its Patent Law in 1993, plant and animal varieties were regarded as unpatentable, although the techniques to produce such varieties were.⁵⁷ China's failure to provide patent protection for plant varieties is understandable. On the one hand, as a developing country, China needs the advanced technology from developed countries. Therefore, China needs a certain level of intellectual property protection to encourage other countries to transfer their technology to China. On the other hand, China also needs to protect itself from foreign exploitation.⁵⁸ As a result, the breeders of new varieties had virtually no protection for their fruits. This certainly affected the development of agriculture in China.⁵⁹

Fortunately, the situation of lacking protection for breeders of new plant varieties changed when China promulgated its Regulations on the Protection of New Varieties of Plants ("Regulations") on March 20, 1997, which took effect on October

50. See Long, *supra* note 35, at 89.

51. Agreement on Trade Relations, July 7, 1979, U.S.-P.R.C., 31 U.S.T. 4651, 4658.

52. See Assafa Endeshaw, *A Critical Assessment of the U.S.-China Conflict on Intellectual Property*, 6 ALB. L.J. SCI. & TECH. 295, 299 (1996).

53. See *id.* at 320.

54. See *id.* at 323.

55. See Cary Fowler, *The Plant Patent Act of 1930: A Sociological History of Its Creation*, 82 J. PAT. & TRADEMARK OFF. SOC'Y 621, 621 (2000).

56. See Ross & Zhang, *supra* note 21, at 228-29.

57. See Cataldo, *supra* note 39, at 153.

58. See *id.* at 157.

59. See Ross & Zhang, *supra* note 21, at 231.

1, 1997.⁶⁰ The objective of the Regulations is to establish and protect “property rights in new plant varieties (“Variety Rights”) to foster the development of agriculture and forestry by creating a regime for the breeding and utilization of such varieties.”⁶¹ Despite limited protection for plant varieties compared with the American standards, the Regulations’ enactment was certainly a landmark step taken by China toward the intellectual property protection for new plant varieties.

The Regulations allows a foreigner to apply for Variety Rights for certain listed varieties in China.⁶² Based on the principle of reciprocity, the approval authority will grant such foreigner the Variety Rights in accordance with the relevant bilateral treaty or international convention.⁶³ This only applies when both China and the foreign country are signatories of a bilateral treaty or international convention.⁶⁴ Additionally, when seeking the protection under the Regulations, the applicant must show the variety meets the tests of novelty, distinctiveness, consistency and stability.⁶⁵ The variety must also have a proper name.⁶⁶

Under the Regulations, the Variety Rights holder generally has the exclusive right to possess the plant variety⁶⁷, the duration of which depends on the plant type.⁶⁸ Without authorization of the Variety Rights holder, others are forbidden to produce and sell the plant variety for commercial purposes.⁶⁹ Unauthorized persons are also forbidden to use the plant variety in producing new varieties for commercial purposes.⁷⁰ However, this prohibition is subject to the exceptions under Article 10 of the Regulations.⁷¹ The two exceptions under Article 10 are 1) unauthorized persons may use the variety for the purpose of breeding new varieties and other scientific research activities,⁷² 2) farmers may keep breeding material for their own use.⁷³

In addition to the exceptions in Article 10, the compulsory licensing provision in Article 11 provides another channel for a person other than the Variety Rights holder to use the new variety when the Variety Rights holder declines to authorize such person to use his/her protected variety. Under Article 11, the approval authority

60. *See id.* at 232.

61. Ross & Zhang, *supra* note 21, at 232. *See* Regulations on the Protection of New Varieties of Plants, Fagui Huibian, art. 1 (1991) (Chengfei Ding translation, 2001).

62. *See* Ross & Zhang, *supra* note 21, at 238.

63. *See* Regulations on the Protection of New Varieties of Plants, Fagui Huibian, art. 20 (1991) (Chengfei Ding translation 2001). *See also* Ross, *supra* note 21, at 238.

64. *See* Regulations on the Protection of New Varieties of Plants, Fagui Huibian, art. 20 (1991) (Chengfei Ding translation 2001). *See also* Ross, *supra* note 21, at 235.

65. *See* Regulations on the Protection of New Varieties of Plants, Fagui Hubian, arts. 15, 16, 17 (1991) (Chengfei Ding translation 2001).

66. *See id.* art. 18.

67. *See id.* art. 6.

68. *See id.* art. 34.

69. *See id.* art. 6.

70. *See id.*

71. *See id.* art. 6, 10.

72. *See id.* art. 10.

73. *See id.*

can compel a Variety Rights holder to license its new plant variety to others.⁷⁴ The Regulations does not limit the scope of licensees. Therefore, the licensees may include the competitors of the Variety Rights holder. This makes Article 11 a harsh requirement for Variety Rights holders.⁷⁵

Different varieties may have different terms of protection under the Regulations. Tree and vine varieties have a protection term of twenty years, while others have a term of fifteen years.⁷⁶

China has continued to take steps to protect the intellectual property of plant varieties following the enactment of the Regulations. On August 29, 1998, the Standing Committee of the Ninth National People's Congress approved China's accession to the International Convention for the Protection of New Varieties of Plants ("UPOV") 1978 Act.⁷⁷ On March 23, 1999, China "deposited its instrument of accession with the UPOV," which took effect on April 23, 1999.⁷⁸ The Regulations is generally consistent with the UPOV 1978 Act although, "there is some variation with respect to the length of the period of protection."⁷⁹ Meanwhile, the United States approved the UPOV 1991 Act in 1999.⁸⁰

UPOV is an intergovernmental organization with its headquarters in the World Intellectual Property Organization in Geneva, Switzerland.⁸¹ "The purpose of the International Convention for the Protection of New Varieties of Plants is to recognize and to ensure intellectual property rights to the breeder of a new plant variety."⁸² The major differences among the UPOV 1978 Act, the Regulations and the UPOV 1991 are:

1. Under the UPOV 1978 Act and Regulations, only those genera and species that are listed are granted protection, while under the UPOV 1991 Act, a member state is committed to protecting all plant genera and species within ten years after accession.⁸³
2. The UPOV 1991 Act goes beyond the UPOV 1978 Act and Regulations regarding the scope of breeder's rights.⁸⁴ The UPOV 1991 Act allows dual patent and plant variety protection for plant varieties, while such dual protection is prohibited under the Article 2(1) of the UPOV 1978 Act and the Regulations.⁸⁵

74. *See id.* art. 6.

75. *See id.* art. 11.

76. *See id.* art. 34.

77. *See* Ross & Zhang, *supra* note 21, at 238.

78. *Id.*

79. *Id.* at 239.

80. *See Ratification by the United States of America of the 1991 Act of the International Convention for the Protection of New Varieties of Plants*, 81 J. PAT. & TRADEMARK OFF. SOC'Y 276, 276 (1999).

81. *See id.*

82. *Id.*

83. *See* Ross & Zhang, *supra* note 21, at 240.

84. *See id.*

85. *See id.* at 240-41.

3. The UPOV 1991 Act “extends the breeder’s right downstream to derived and not clearly distinguishable varieties.”⁸⁶ Neither the UPOV 1978 nor the Regulations has such extension.

Obviously, the UPOV 1991 Act provides broader protection for plant varieties than the UPOV 1978 and the Regulations.

VII. TRIPS

When China enters the WTO, it will be obliged to comply with the rules of the WTO concerning the protection of intellectual property.⁸⁷ At present, the protection that China grants plant varieties is consistent with the intellectual property protection under the institution of the WTO.

In the WTO regime, the agreement concerning the intellectual property protection is the Agreement on Trade-Related Aspects of Intellectual Property Rights (“TRIPs”).⁸⁸ TRIPs is a “revolution” in intellectual property protection because for the first time intellectual property is protected in the scope of international trade agreements.⁸⁹ The WTO regime requires its member states to comply with the TRIPs’ requirements. If they don’t, the member states will risk economic isolation.⁹⁰ China has made the promise that it will implement the obligations under TRIPs upon its accession to the WTO.⁹¹

According to the general provisions and basic principles of TRIPs, member states shall accord the nationals of other member states no less favorable treatment than their own nationals regarding the protection of intellectual property.⁹² Therefore, when China enters the WTO, China will accord the “no less favorable treatment policy” concerning the protection of intellectual property to the nationals of the United States. According to the Regulations, if a foreigner wants to apply for breeder’s rights, he/she must follow the bilateral treaty or international conventions that involve China and that foreign country.⁹³ When China enters the WTO, both China and the United States will be member states of TRIPs. Therefore, according to the no less favorable treatment principle and the Regulations, American citizens can apply for plant breeder’s rights and receive the same treatment as Chinese citizens in China.⁹⁴

86. *Id.* at 241.

87. *See id.* at 230.

88. *See* Gutowski, *supra* note 8, at 714.

89. *Id.* at 724.

90. *See id.* at 724-25.

91. *See* Richard J. Ansson, *International Intellectual Property Rights, The United States, and the People’s Republic of China*, 13 TEMP. INT’L & COMP. L.J. 1, 23 (1999).

92. *See* Gutowski, *supra* note 88, at 724-25.

93. *See* Regulations on the Protection of New Varieties of Plants, Fagui Huibian, art. 20 (1991) (Chengfei Ding translation 2001).

94. *See id.* art. 23.

Under Article 27 of TRIPs, member states must protect plant varieties, "either by patents or by an effective sui generis system or by any combination thereof."⁹⁵ The TRIPs agreement does not give a definition to "effective sui generis system."⁹⁶ However, it is widely believed that it refers to a system modeled after UPOV.⁹⁷ If this is the case, the Regulations has met the requirement of TRIPs and China does not have to make major changes regarding the protection of intellectual property of biotechnology.

In the eyes of American businesses, the protection provided by China may not be sufficient. The short term of protection, the compulsory licensing provision and the limited scope of protection in the Regulations, all subject American businesses to an uncertain market. Regarding the enormous risk of the biotechnology business and the large amount of investment usually required for developing a new variety, American agricultural businesses may demand a better protection in China. The TRIPs agreement merely sets a minimal standard for the protection of intellectual property.⁹⁸ Both China and the United States may negotiate the terms of protecting the American intellectual property in agricultural products in China.

VIII. THE PROTECTION FOR PLANT VARIETIES IN US

Compared with China, the United States has a different approach to protecting the intellectual property of plant varieties. In 1930, Congress passed the Townsend-Purnell Plant Patent Act ("PPA") to provide the agriculture with the benefit from patent protection.⁹⁹ The PPA grants the patent holder the "right to exclude others from asexually reproducing the plant, and from using, offering for sale, or selling the plant so reproduced, or any of its parts, throughout the United States, or from importing the plant so reproduced, or any parts thereof, into the United States."¹⁰⁰ One problem with the PPA is that it only protects asexually reproduced plants and not the seeds that are produced sexually.¹⁰¹ Congress solved this problem in 1970 by passing the Plant Variety Protection Act ("PVPA") to "help crop breeders get protection for seeds."¹⁰² The PVPA provides patent-like protection for sexually reproduced plant varieties.¹⁰³ There is no significant difference between the PPA and PVPA except that they protect

95. Agreement on Trade-Related Aspects of Intellectual Property Rights, Including Trade in Counterfeit Goods, December 15, 1993, WTO Members, 33 I.L.M. 81, 94.

96. Kevin W. McCabe, *The January 1999 Review of Article 27 of the TRIPS Agreement: Diverging Views of Developed and Developing Countries Toward the Patentability of Biotechnology*, 6 J. INTELL. PROP. L. 41, 51 (1998).

97. See *id.*

98. See *id.* at 43.

99. See Andrew F. Nilles, Comment, *Plant Patent Law: The Federal Circuit Sows the Seed to Allow Agriculture to Grow*, 35 LAND & WATER L. REV. 355, 359 (2000).

100. 35 U.S.C. § 163 (1999).

101. See 35 U.S.C. § 163 (1994). See also Nilles, *supra* note 99, at 359.

102. See Nilles, *supra* note 99, at 360 (citing 7 U.S.C. § 2402 (1994)).

103. See *id.*

different types of plants.¹⁰⁴ Both acts grant plant breeders twenty years of protection.¹⁰⁵

In addition to the PPA and PVPA, the general patent statute also provides patent protection for plant varieties because “anything under the sun that is made by man” is the subject of patent protection.¹⁰⁶ The *Pioneer Hi-Bred, International, Inc v. J.E.M. Agriculture Supply, Inc.* ruling affirms that seeds and seed-grown plants are patentable under the general patent statute.¹⁰⁷

Compared with the PVPA, patent protection is more advantageous to plant breeders.¹⁰⁸ Under the PVPA, there are two exemptions to plant breeders’ exclusive rights.¹⁰⁹ One exemption is the right to save seed crop exemption, which means farmers can save the seed for replanting for the next year.¹¹⁰ The other exemption is a research exemption,¹¹¹ which allows unauthorized people to use the protected seed in research for developing new plant varieties.¹¹² These two exemptions do not exist in the general patent statute. Consequently, plant breeders generally seek patent protection.¹¹³

IX. COMPARISON OF THE AMERICAN AND CHINESE SYSTEMS IN PROTECTING NEW PLANT VARIETIES

Biotechnology industry should be protected by effective intellectual property laws because this industry involves expensive research and development costs as well as high risks.¹¹⁴ The American biotechnology industry has a legitimate reason to be concerned with the intellectual property protection for its new plant varieties in China when it starts to expand its business to China.¹¹⁵ Compared with the patent protection in the United States, the protection under the Regulations for plant varieties in China is weak.

First, while under the general patent statute all kinds of plant varieties are granted protection,¹¹⁶ the Regulations only protects those listed plant varieties.¹¹⁷

104. See *id.*

105. See *id.* at 361.

106. See *Diamond v. Chakrabarty*, 447 U.S. 303, 309 (1980); Charles Vorndran, *Biotechnology and Intellectual Property Protection from U.S. Law Through NAFTA*, 3 NAFTA: L. & BUS. REV. AM. 103, 109 (1997).

107. See *Pioneer Hi-Bred Int’l, Inc. v. J.E.M. Ag. Supply, Inc.*, 200 F.3d 1374, 1378 (Fed. Cir. 2000); Nilles, *supra* note 99, at 365.

108. See Nilles, *supra* note 99, at 369.

109. See *id.*

110. See 7 U.S.C. § 2543 (1999); Nilles, *supra* note 99, at 369.

111. See 7 U.S.C. § 2544 (1999); Nilles, *supra* note 99, at 370.

112. See 7 U.S.C. § 2544 (1999); Nilles, *supra* note 99, at 370.

113. See Nilles, *supra* note 99, at 370.

114. See Vorndran, *supra* note 106, at 105.

115. See Ross & Zhang, *supra* note 21, at 238.

116. See 35 U.S.C. § 163 (2000); *Diamond*, 447 U.S. at 309; see Nilles, *supra* note 99, at 359;

Therefore, when an American biotechnology business is considering the expansion of its business into China, the first question it should ask is whether its plant varieties belong to the listed protectable varieties in the Regulations. If they are not, the intellectual property in those varieties are not likely to be protected.

Second, the varieties developed by American businesses may enjoy a shorter term of protection in China than in their home country. Under the Regulations, only tree and vine varieties enjoy twenty years of protection, while other varieties have only fifteen years of protection.¹¹⁸ Under the PPA, PVPA, and the general patent statute, the term of protection for all plant varieties is twenty years.¹¹⁹

Third, under the Regulations two exemptions are carved from the exclusive rights of the Variety Rights holders. One is the exemption for research and the other is crop exemption.¹²⁰ These two exemptions are similar to those exemptions in the PVPA.¹²¹ The general patent statute and the PPA do not have such exemptions.¹²² Those plant breeders who seek patent protection under patent law in the United States will have to subject their rights to the two exemptions under the Regulations in China.¹²³

Fourth, the compulsory licensing provision in Article 11 of the Regulations authorizes the approval authority to compel Variety Rights holder to license the new plant variety in the national or public interest.¹²⁴ There is no such provision in the relevant American laws. According to Article 11, if the Variety Rights holder and the licensee under such compulsory licensing provision cannot reach an agreement on the price of the license, the approval authority may step in and determine the amount of compensation for the license.¹²⁵ One problem with this provision is that the Regulations does not define what is national or public interest, so there is no clear restriction on the approval authority to exercise its power of compulsory licensing.¹²⁶ The other problem is that the Regulations does not give a guideline as to how the approval authority should determine the price of the license, so the approval authority may come up with an arbitrary price that is below the market price.¹²⁷ This

see Vorndran, *supra* note 106, at 109.

117. See Regulations on the Protection of New Varieties of Plants, Fagui Huibian, art. 13 (1991) (Chengfei Ding translation 2001).

118. See *id.* art. 34.

119. See 7 U.S.C. § 2483 (1999); see Nilles, *supra* note 99, at 360.

120. See Regulations on the Protection of New Varieties of Plants, Fagui Huibian, art. 10(1), 10(2) (1991) (Chengfei Ding translation 2001).

121. See 7 U.S.C. §§ 2543-2544 (1999).

122. See Nilles, *supra* note 99, at 369.

123. See Regulations on the Protection of New Varieties of Plants, Fagui Huibian, art. 10 (1991) (Chengfei Ding translation 2001).

124. See *id.* art. 11.

125. See *id.*

126. See *id.* See also Ross & Zhang, *supra* note 21, at 233.

127. See *id.* See also Ross & Zhang, *supra* note 21, at 233.

compulsory licensing provision may deter American businesses from entering the Chinese market.¹²⁸

X. SPECIAL PROBLEMS OF LAW ENFORCEMENT IN CHINA

In addition to the less favorable protection for plant varieties offered by the Chinese law, China may not be able to enforce its laws effectively. Enacting law in China is one thing, while the enforcement of the law is another. The lack of effective enforcement of law in China has been a long-standing problem in its legal reform.¹²⁹

The United States has long been complaining that China does not enforce its law to protect the intellectual property rights of American citizens satisfactorily.¹³⁰ In fact, the discontent with the enforcement of intellectual property laws in China nearly led the United States to trade wars with China between 1990 and 1997.¹³¹ Despite the quarrels with the United States, however, China has taken substantial steps to enforce intellectual property laws.¹³²

China relies on two enforcement mechanisms in protecting intellectual property: administrative and judicial mechanisms.¹³³ In the context of protecting Variety Rights in China, a Variety Rights holder has two options when the unauthorized use of his/her protected plant variety occurs.¹³⁴ He/she may seek administrative aid and petition the provincial agriculture department or forestry department or a higher governmental department with related power to deal with the alleged infringement within its power.¹³⁵ As an alternative, the Variety Right holder may also choose to bring a suit in the People's Court and seek judicial relief.¹³⁶

If the Variety Rights holder chooses to seek administrative relief, the government department may mediate between two parties.¹³⁷ If mediation fails, the Variety Rights holder may bring a suit in the People's Court according to the civil procedural law.¹³⁸ When the government department is adjudicating the disputes, it

128. See Ross & Zhang, *supra* note 21, at 233; See also Regulations on the Protection of New Varieties of Plants, Fagui Huibian, art. 11 (1991) (Chengfei Ding translation 2001).

129. See Julia Cheng, Note, *China's Copyright System: Rising to the Spirit of TRIPs Requires an Internal Focus and WTO Membership*, 21 FORDHAM INT'L L.J. 1941, 1974 (1998) (giving an example of China's failure to implement its intellectual property laws).

130. See Endeshaw, *supra* note 52, at 299.

131. See Cheng, *supra* note 129, at 1943.

132. See Naigen Zhang, *Intellectual Property Law Enforcement in China: Trade Issues, Policies and Practices*, 8 FORDHAM INTELL. PROP. MEDIA & ENT. L.J. 63, 66 (1998).

133. See *id.*

134. See Regulations on the Protection of New Varieties of Plants Fagui Huibian, art. 39 (1991) (Chengfei Ding translation 2001).

135. See *id.*

136. See *id.*

137. See *id.*

138. See *id.*

may issue an injunction, confiscate the illegal earnings and fine the unauthorized user an amount no more than five times the earning from his/her illegal activities.¹³⁹

As to judicial relief, however, the Regulations does not specify what kind of relief that the Variety Rights holder can seek in the People's Court.¹⁴⁰ Presumably he/she may seek all the remedies available in a civil case. When the infringement is especially serious, the violator may face criminal charges according to the Regulations.¹⁴¹ When an American business seeks judicial relief in China, the lowest court it should go to is the Intermediate People's Court, because American businesses are foreigners according to the Chinese Civil Procedural Law.¹⁴²

In order to effectively enforce intellectual property laws, China has established the intellectual property rights trial division which has "exclusive jurisdiction over all intellectual property cases not involving criminal or administrative law" in several High People's Courts and Intermediate People's Courts.¹⁴³ The Supreme People's Court of China also established the Intellectual Property Rights Office.¹⁴⁴ It is likely that China will develop a different court system from that of the United States with special trial divisions in the People's Courts of all levels to adjudicate cases related to intellectual property rights.¹⁴⁵

China is also trying to improve the quality of the judges in the intellectual property trial divisions.¹⁴⁶ China seeks to put a new contingent system of judges in the intellectual property trial divisions instead of following the old system that recruits the judges from the old cadres.¹⁴⁷ However, intellectual property rights are a new concept in the legal system in China and the Chinese courts currently lack the experienced Judges in this area.¹⁴⁸ There are also not sufficient Chinese lawyers who have been trained in the area of intellectual property laws.¹⁴⁹ These factors combined with the serious corruption in China make it hard to enforce intellectual property laws effectively.¹⁵⁰ As the result, violations of intellectual property laws cannot be stopped in a timely manner.¹⁵¹

Another problem related to the enforcement of intellectual property laws in China is the lack of cooperation from local governments.¹⁵² China's ineffective

139. *See id.*

140. *See id.*

141. *See id.*

142. *See* Civil Procedural Law of the People's Republic of China, art. 19, § 1 (1991).

143. Zhang, *supra* note 132, at 66-67.

144. *See id.* at 67.

145. *See id.* at 68.

146. *See* Cataldo, *supra* note 39, at 154.

147. *See id.*

148. *See id.*

149. *See id.*

150. *See* Eric W. Orts, *The Rule of Law in China*, 34 VAND. J. TRANSNAT'L L. 43, 70 (2001).

151. *See id.* at 70-73.

152. *See* Yiqiang Li, *Evaluation of the Sino-American Intellectual Property Agreements: A Judicial Approach to Solving the Local Protectionism Problem*, 10 COLUM. J. ASIAN L. 391, 393-394

enforcement of intellectual property laws, even under the pressure of the United States government, to a large extent can be attributed to the lack of local government cooperation.¹⁵³ Negotiations between the Chinese and American government have only involved the high-ranking officials in the central government in China.¹⁵⁴ Despite the central government's cooperation, local governments in China do not necessarily have consensus with the central government in all areas.¹⁵⁵ Instead, local governments may sometimes have different interests than those of the central government. The conflicting interests often lead to local protectionism.¹⁵⁶

The decentralization process in the Chinese economic reform has given local governments wide power and great discretion in dealing with problems in their own territories.¹⁵⁷ Local governments currently lack incentives to enforce the intellectual property law because, even though protection of intellectual property rights will benefit the future, it will impose an immediate cost.¹⁵⁸ For example, many state-owned enterprises are in a difficult situation because their mechanism is not adapted to the market economy and many of them are already technically bankrupt.¹⁵⁹ To rigorously enforce intellectual property law in such a harsh condition for state-owned enterprises will drive many of them out of business and a substantial number of people will lose their jobs.¹⁶⁰ Therefore, enforcing intellectual property law to protect foreign interest with little imminent benefit to the domestic economy may lead to serious consequences: unemployment and social instability.¹⁶¹ Local governments are unlikely to take such steps.

The new fiscal system that allows a local government to retain a portion of its revenue also gives the local government the incentive to intervene in the court proceedings.¹⁶² Under such a fiscal system, local governments' financial interest is directly related to the local economy. Local governments do not want to see local enterprises go bankrupt or get into financial trouble because such things will diminish the revenues of the local governments. To prevent the undesirable results, local governments frequently intervene in court judgments.¹⁶³ Even after the court issues a judgment, there is still a good chance that the judgment may not be timely enforced.¹⁶⁴

(1996).

153. *See id.*

154. *See id.* at 393.

155. *See id.* at 398-400.

156. *See Cheng, supra* note 129, at 1986.

157. *See Li, supra* note 152, at 395.

158. *See id.*

159. *See id.* at 396.

160. *See id.*

161. *See id.* at 397-98.

162. *See id.* at 400.

163. *See id.*

164. *See id.* at 401.

To get around the local protectionism, a foreign Variety Rights holder may seek forum shopping. This is possible because the local governments have power within their territories, but not outside them.¹⁶⁵ A Chinese court can issue an injunction to an infringer outside its locality by following proper procedures.¹⁶⁶

Education is also a way to help China enforce its intellectual property laws. The lack of enforcement of intellectual property laws is essentially a cultural issue. As mentioned earlier, traditional Chinese culture does not regard intellectual property rights as private rights, and the concept of intellectual property is novel for the general Chinese population.¹⁶⁷ Many infringers do not know that they are infringing upon the private rights of others.¹⁶⁸ To give the law real teeth in order to protect the legal rights of Variety Rights holders, people must be educated to understand the law.¹⁶⁹ This may be a long process, which will take a great deal of time and money. American businesses have an interest in helping the Chinese government or non-governmental organizations educate Chinese people to respect the intellectual property of others because effective law enforcement needs a favorable cultural environment.

XI. CONCLUSION

With the time for China to become a formal member of the WTO drawing closer, it is in the best interest of American agricultural businesses to trade with China. Due to the social, economic, and political differences between the United States and China, however, American businesses will face a social and legal environment in China that is much different from that in their home country. To be successful, the first thing that an American business should do before going to China is to gain an understanding of its law, its culture and its people. Mutual understanding is the basis for cooperation and good business development, especially in the area of intellectual property.

China is at a stage of transition from the old planned economy to the market economy. It will take time for China to complete this painful transition and become fully adapted to the international business norms. In such a situation, an American business needs to take cautious steps and to have a tolerant attitude when it expands its business to China.

Modern technology, including the Internet, will help China and the outside world understand each other. With more and more interactions between China and the outside world, in the near future, China will fully understand the importance of protecting private rights, especially the importance of protecting intellectual property

165. See Cheng, *supra* note 129, at 1995.

166. See *id.*

167. See *id.* at 1998.

168. See *id.*

169. See *id.* at 2008.

rights. At that time, China will be a truly promising market for American agricultural businesses.¹⁷⁰

170. China will be a member of the WTO on December 11, 2001, and what is discussed throughout this note will still apply.