

Kongming WU

1. Contacting Information

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2. Present Ranks

Professor, Institute of Plant Protection, CAAS

President, China Society of Plant Protection

Academician, Chinese Academy of Engineering

3. Academic Qualifications

BA. Henan Agricultural University, Zhenzhou, 1984

MS. Zhejiang Agricultural University, Hangzhou, 1987

PhD CAAS, Beijing, 1994

4. Scientific Researches

Dr. Wu's research focuses on biology and management of cotton insect pests. As a principle investigator he has carried out twelve major research projects sponsored by China Ministry of Science and Technology, China Ministry of Agriculture, and the National Natural Science Foundation of China, respectively. So far, Dr. Wu has published more than 200 academic articles on scientific journals including *Science*, *Nature Biotechnology*, and *Annual Review of Entomology* etc. and he has obtained three national awards due to his great contributions to agricultural science. In the past research career, Dr. Wu has supervised eleven doctoral students, fifteen master students and ten postdoctoral fellows. In 1998, Dr. Wu received the life-time special subsidy by the State Council for his outstanding contributions. In 1999, the Ministry of Agriculture honored him as an Outstanding Young Scholar. In 2006, Dr. Wu won the Science & Technology Award for Chinese Youth, and in the same year he was funded with a grant that was special for National Outstanding Youth Scientist from

the National Natural Science Foundation. In 2010, Dr. Wu was honored as the National Outstanding Science and Technology Scientist by China Society and Technology Association.

5. Articles published in recent years

1. He Y., J. Zhao, D. Wu, K. Wyckhuys, and K. Wu. 2011. Sublethal effects of imidacloprid on *Bemisia tabaci* (Gennadius) (Hemiptera: Aleyrodidae) under laboratory conditions. *Journal of Economic Entomology*. 104: 833-838.
2. Lu Y., and K. Wu. 2011. Effect of relative humidity on population growth of *Apolygus lucorum* (Heteroptera: Miridae) *Applied Entomology and Zoology*. 46: 421-427.
3. Yu H., Y. Li, and K. Wu. 2011. Risk assessment and ecological effects of transgenic *Bacillus thuringiensis* crops on non-target organisms. *Journal of Integrative Plant Biology*. 53: 520–538.
4. Liu Z., K. Wyckhuys, and K. Wu. 2011. Migratory adaptations in *Chrysoperla sinica* (Neuroptera: Chrysopidae). *Environmental Entomology*. 40: 449-454.
5. Liu Z., J. Mcneil, and K. Wu. 2011. Flight-mill performance of the green lacewing, *Chrysoperla sinica* (Tjeder) (Neuroptera: Chrysopidae) as a function of age, temperature and relative humidity. *Journal of Economic Entomology*. 104: 94-100
6. Jurat-Fuentes J., Karumbahiah L., Jakka S.K., Ning C., Liu C., Wu K., Jackson J., Gould F., Blanco C., Portilla M., Perera O.P., and Adang M.J. 2011. Reduced levels of membrane-bound alkaline phosphatase are common to lepidopteran strains resistant to Cry toxins from *Bacillus thuringiensis*. *PLoS One*. 6:e17606.
7. Lu Y., Jiao Z., G. L, K. Wyckhuys, and K. Wu. 2011. Comparative overwintering host range of three *Adelphocoris* species (Hemiptera: Miridae) in northern China. *Crop Protection*. 30: 1455-1460.
8. Gao Y., J. An, F. Gould, C. Blanco, K. Wu. 2011. Susceptibility of *Helicoverpa armigera* from different host plants in northern China to *Bacillus thuringiensis* toxin Cry1Ac. *Crop Protection* 30: 1421-1424.
9. An J., Y. Gao, K. Wu, F. Gould, J. Gao, Z. Shen, and C. Lei. 2010. Vip3Aa tolerance response of *Helicoverpa armigera* populations from a Cry1Ac cotton planting region. *Journal of Economic Entomology*. 103: 2169-2173.
10. Wu K. 2010. No refuge for insect pests. *Nature Biotechnology*. 28: 1273-1275.

11. Li G., H. Feng, Y. Gao, K. Wyckhuys, and K. Wu. 2010. Frequency of *Bt* resistance alleles in *Helicoverpa armigera* in the Xinjiang cotton planting region of China. *Environmental Entomology*. 39:1698-1704.
12. Liu C., Y. Li, Y. Gao, C. Ning, and K. Wu. 2010. Cotton bollworm resistance to Bt transgenic cotton: A case analysis. *Science in China*. 53:934-941.
13. Liu Y. M. Hou, and K. Wu. 2010. Genetic variation of mitochondrial DNA in Chinese populations of *Pectinophora gossypiella* (Lepidoptera: Gelechiidae). *Environmental Entomology*. 39: 1344-1351.
14. Lu Y., K. Wu, K. Wyckhuys, and Y. Guo. 2010. Overwintering hosts of *Apolygus lucorum* (Hemiptera: Miridae) in northern China. *Crop Protection*. 29:1026-1033.
15. Cao G., Q. Lu, L. Zhang, F. Guo, G. Liang, K. Wu, K. Wyckhuys and Y. Guo. 2010. Toxicity of chlorantraniliprole to Cry1Ac-susceptible and resistant strains of *Helicoverpa armigera*. *Pesticide Biochemistry and Physiology*. 98: 99-103.
16. Lu Y., K. Wu, K. Wyckhuys, and Y. Guo. 2010. Temperature-dependent life history of the green plant bug, *Apolygus lucorum* (Meyer-Dür) (Hemiptera: Miridae). *Applied Entomology and Zoology*. 45: 387-393.
17. Gao Y., H. Feng, and K. Wu. 2010. Regulation of the seasonal population patterns of *Helicoverpa armigera* moths by Bt cotton planting. *Transgenic Research*. 19: 557-562.
18. Heimpe G., L. Frelich, D. Landis, K. Hopper, K. Hoelmer, Z. Sezen, M. Asplen, and K. Wu. 2010. European buckthorn and Asian soybean aphid as components of an extensive invasional meltdown in North America. *Biological Invasion*. 12:2913–2931.
19. Feng H., F. Gould, Y. Huang, Y. Jiang, K. Wu. 2010. Modeling the population dynamics of cotton bollworm *Helicoverpa armigera* (Hübner) (Lepidoptera: Noctuidae) over a wide area in northern China. *Ecological Modelling*. 221: 1819-1830.
20. Zhang Y., C. Liu, Y. Li, and K. Wu. 2010. Phytase transgenic maize does not affect the development and nutrition utilization of *Ostrinia furnacalis* (Guenée) and *Helicoverpa armigera* (Hübner). *Environmental Entomology*. 39: 1051-1057.
21. Liu C., Y. Gao, C. Ning, K. Wu, B. Oppert, Y. Guo. 2010. Antisera-mediated in vivo reduction of Cry1Ac toxicity in *Helicoverpa armigera*. *Journal of Insect Physiology*. 56: 718-724.
22. Lu Y., K. Wu, Y. Jiang, B. Xia, P. Li, H. Feng, K. Wyckhuys, and Y. Guo. 2010.

- Mirid bug outbreaks in multiple crops correlated with wide-scale adoption of Bt cotton in China. *Science*. 328: 1151-1154.
23. Ning C., K. Wu, C. Liu, Y. Gao, J. Jurat-Fuentes, and X. Gao. 2010. Characterization of a Cry1Ac toxin-binding alkaline phosphatase in the midgut from *Helicoverpa armigera* larvae. *Journal of Insect Physiology*. 56: 666-672.
 24. Tu Y., K. Wu, F. Xue, and Y. Lu. 2010. Laboratory evaluation of flight activity of the common cutworm, *Spodoptera litura* (Lepidoptera: Noctuidae). *Insect Science*. 17: 53-59.
 25. Gao Y., K. Wu, F. Gould, and Z. Shen. 2009. Cry2Ab tolerance response of *Helicoverpa armigera* populations from Cry1Ac cotton planting region. *Journal of Economic Entomology*. 102: 1217-1223.
 26. Yu H., Y. Zhang, K. Wu, K. Wyckhuys, and Y. Guo. 2009. Flight potential of *Microplitis mediator*, a parasitoid of various lepidopteran pests. *BioControl*. 54: 183-194.
 27. Zhang Y., K. Wu, K. Wyckhuys, and G. Heimpel. 2009. Trade-offs between flight and reproduction in the soybean aphid, *Aphis glycines Matsumura* (Hemiptera: Aphididae). *Journal of Economic Entomology*. 102: 133-138.
 28. Feng H, X. Wu, B. Wu, and K. Wu. 2009. Seasonal migration of *Helicoverpa armigera* (Lepidoptera: Noctuidae) over the Bohai Sea. *Journal of Economic Entomology*. 102: 95-104.
 29. Zhao X., K. Wu, G. Liang and Y. Guo. 2009. Modified female calling behavior in Cry1Ac-resistant *Helicoverpa armigera* (Lepidoptera: Noctuidae). *Pest Management Science*. 65: 353-357.
 30. Lu Y., K. Wu, Wyckhuys K., and Y. Guo. 2009. Potential of mungbean, *Vigna radiatus* as a trap crop for managing *Apolygus lucorum* (Hemiptera: Miridae) on Bt cotton. *Crop Protection*. 28: 77-81.
 31. Liu Y., K. Wu, and Y. Guo. 2009. Population structure and introduction history of pink bollworm (*Pectinophora gossypiella*, Saunders) in China. *Entomologia Experimentalis et Applicata*. 130: 160-172.
 32. Liu Y., Y. Liu, K. Wu, K. Wyckhuys, and F. Xue. 2008. Lethal and sublethal

- effects of endosulfan on *Apolygus lucorum* Meyer-Dür (Hemiptera: Miridae). *Journal of Economic Entomology*. 101: 1805-1810.
33. Han L., P. Liu, K. Wu, Y. Peng, and F. Wang. 2008. Population dynamics of *Sesamia inferens* on transgenic rice expressing Cry1Ac and CpTI in southern China. *Environmental Entomology*. 37: 1361-1370.
 34. Wu K., Y. Lu, H. Feng, Y. Jiang, and J. Zhao. 2008. Suppression of cotton bollworm in multiple crops in China in areas with Bt toxin-containing cotton. *Science*. 321: 1676-1678.
 35. Wan P., K. Wu, M. Huang, D. Yu, and J. Wu. 2008. Population dynamics of common cutworm, *Spodoptera litura* Fabricius, on Bt cotton in the Yangtze River valley of China. *Environmental Entomology*. 37: 1043-1048.
 36. Feng H., X. Zhao, X. Wu, B. Wu, K. Wu, D. Cheng, and Y. Guo. 2008. Autumn migration of the oriental armyworm moth, *Mythimna separata* (Lepidoptera: Noctuidae) over the Bohai Sea in Northern China. *Environmental Entomology*. 37: 774-781.
 37. Zhao X., K. Wu, and Y. Guo. 2008. Altered mating behavior associated with Cry1Ac-resistance in *Helicoverpa armigera* (Lepidoptera: Noctuidae). *Journal of Applied Entomology*. 132: 360-365.
 38. Zhang Y., L. Wang, K. Wu, K. Wyckhuys, and G. Heimpel. 2008. Flight performance of the soybean aphid, *Aphis glycines* Matsumura (Hemiptera: Aphididae) under different temperature and humidity regimes. *Environmental Entomology*. 37: 301-306.
 39. Lin K., K. Wu, Y. Zhang, and Y. Guo. 2008. Naturally occurring populations of *Bemisia tabaci*, biotype B and associated natural enemies in agro-ecosystem in Northern China. *Biocontrol Science & Technology*. 18: 169-182.
 40. Zhao X., K. Wu, and Y. Guo. 2008. Oil-soluble dyes in larval diet marking *Helicoverpa armigera* (Lepidoptera: Noctuidae). *Entomologia Experimentalis et Applicata*. 126: 256-260.
 41. Liang G., K. Wu, H. Yu, K. Li, X. Feng, and Y. Guo. 2008. Changes of inheritance mode and fitness in *Helicoverpa armigera* (Lepidoptera: Noctuidae)

- along with its resistance evolution to Cry1Ac toxin. *Journal of Invertebrate Pathology*. 97:142-149.
42. Lu Y., K. Wu, Y. Guo. 2008. Species composition and seasonal abundance of pestiferous plant bugs (Hemiptera: Miridae) on Bt cotton in China. *Crop Protection*. 27: 465-472.
 43. Liang G., K. Wu, and Y. Guo. 2008. Diapause, cold hardiness and flight ability of Cry1Ac-resistant and -susceptible strains of *Helicoverpa armigera* (Lepidoptera: Noctuidae). *European Journal of Entomology*. 104: 699-704.
 44. Liu Y., Z. Yang, and K. Wu. 2007. Eight polymorphic microsatellite markers developed in the green leaf bug, *Lygus lucorum* Meyer-Dur (Hemiptera: Miridae). *Molecular Ecology Note*. 7: 29-31.
 45. Han L., K. Wu, Y. Peng, F. Wang, and Y. Guo. 2007. Efficacy of transgenic rice expressing Cry1Ac and CpTI against the rice leaffolder, *Cnaphalocrocis medinalis* (Guenée). *Journal of Invertebrate Pathology*. 96:71-79.
 46. Lu Y., K. Wu, and Y. Guo. 2007. Flight potential of the green plant bug, *Lygus lucorum* Meyer-Dür (Heteroptera: Miridae). *Environmental Entomology*. 36: 1007-1013.
 47. Li G., K. Wu, F. Gould, J. Wang, J. Miao, X. Guo, and Y. Guo. 2007. Increasing tolerance to Cry1Ac cotton from cotton bollworm was confirmed in Bt cotton farming area of China. *Ecological Entomology*. 32: 366-375.
 48. Lin K., K. Wu, Y. Zhang, and Y. Guo. 2007. Overwintering and population dynamics of *Bemisia tabaci* biotype B in greenhouse during the spring in northern China. *Crop Protection*. 26: 1831-1838.
 49. Feng H., Y. Zhang, K. Wu, D. Cheng, and Y. Guo. 2007. Nocturnal windborne migration of ground beetles, particularly *Pseudoophonus griseus* (Coleoptera: Carabidae), in China. *Agricultural and Forest Entomology*. 9: 103-113.
 50. Li Y., K. Wu, Y. Zhang, and G. Yuan. 2007. Degradation of Cry1Ac protein within transgenic *Bacillus thuringiensis* rice tissues under field and laboratory conditions. *Environmental Entomology*. 36: 1275-1282.
 51. Wu K. 2007. Monitoring and management strategy for *Helicoverpa armigera*

- resistance to Bt cotton in China. *Journal of Invertebrate Pathology*. 95: 220-223.
52. Luo S., K. Wu, Y. Tian, G. Liang, X. Feng, J. Zhang, and Y. Guo. 2007. Cross-resistance studies of Cry1Ac-resistant strains of *Helicoverpa armigera* (Lepidoptera: Noctuidae) to Cry2Ab. *Journal of Economic Entomology*. 100: 909-915.
53. Zhao X., K. Wu, and Y. Guo. 2007. Comparisons of calling behavior in *Helicoverpa armigera* populations from different geographical climate regions. *Journal of Applied Entomology*. 131: 684-689.
54. Liu Y., K. Wu, and Y. Guo. 2006. Isolation and characterization of polymorphic microsatellite loci from the pink bollworm *Pectinophora gossypiella* (Saunders) (Lepidoptera: Gelechiidae). *Molecular Ecology Note*. 6: 847-849.
55. Han L., K. Wu, Y. Peng, F. Wang, and Y. Guo. 2006. Evaluation of transgenic rice expressing Cry1Ac and CpTI against *Chilo Suppressalis* and intrapopulation variation in susceptibility to Cry1Ac. *Environmental Entomology*. 35(5): 1453-1459.
56. Feng H., K. Wu, Y. Ni, D. Cheng, and Y. Guo. 2006. Nocturnal migration of dragonflies over the Bohai Sea in northern China. *Ecological Entomology*. 31: 511-520.
57. Wu H., K. Wu, D. Wang, and Y. Guo. 2006. Flight potential of pink bollworm, *Pectinophora gossypiella* Saunders (Lepidoptera: Noctuidae). *Environmental Entomology*. 35(4): 887-893.
58. Luo S., G. Wang, G. Liang, K. Wu, L. Bai, X. Ren, Y. Guo. 2006. Binding of three Cry1A toxins in resistant and susceptible strains of cotton bollworm (*Helicoverpa armigera*). *Pesticide Biochemistry and Physiology*. 85: 104-109.
59. Wu K., Y. Guo, G. Head. 2006. Resistance monitoring of *Helicoverpa armigera* (Lepidoptera: Noctuidae) to Bt insecticidal protein during 2001-2004 in China. *Journal of Economic Entomology*. 99: 893-896.