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## 1. 基本信息

王乔春，男，1958年2月生，四川眉山人，教授，博士生导师。1982年毕业于四川农业大学园艺系，获学士学位，同年留校任助教。1988年毕业于瑞典农业大学园艺系，获硕士学位。

1988-1995年，在四川农业大学园艺系任助讲师、副教授、系副主任、林学园艺学院常务副院长。

1994年在奥地利维也纳农业大学应用微生物系作

高级访问学者。1995-1998年在四川省农业科学院园艺所任所长、研究员。2003年毕业于以色列西伯莱大学，获博士学位，同年在该校完成博士后工作。2003-2008年在芬兰赫尔辛基大学应用生物系作访问教授。2007年回国，在西北农林科技大学园艺学院任教授，博士生导师。



现任园艺学院副院长，国际 Cryobiology Society 会员、国际 In Vitro Society 会员、国际园艺学会 Cryo-Technology 分会学术委员会委员，应邀为《Trends in Plant Science》、《Cryobiology》、《CryoLetters》、《Plant Cell, Tissue and Organ Culture》、《Euphytica》、《Scientia Horticulturae》、《Plant Science》、《Plant Cell Reports》、《Potato Research》等国际 SCI 刊物特约审稿人。

## 2. 研究方向

主要从事园艺植物种质资源的超低温保存技术与理论研究，园艺

植物超低温脱毒技术与理论研究，园艺植物再生体系的建立与转基因技术研究，园艺植物无性繁殖技术与理论研究。

### 3. 开设课程

承担本科生、硕士和博士研究生园艺学导论、园艺植物病毒学、SCI 论文写作、科研专题讲座、现代生物技术、园艺学专题讲座等课程。

### 4. 主要学术成果

A. 1984-1990 年间，主要研究扦插繁殖机理与技术。以 *Hibiscus rosa-sinensis* 为试材，首次在国际上报道母株年龄和光照条件是影响插条生根的关键因素。明确指出，适合于 *Hibiscus rosa-sinensis* 扦插繁殖的母株年龄为 3 年，母株暗处理或遮光处理有利于插条生根。上述研究在国际刊物上发表 5 篇论文，其中在 SCI 刊物上发表 1 篇，应邀参加国际学术会议，并作大会发言。

B. 1991-1995 年间，主要研究苹果与梨试管苗繁殖的机理与技术。揭示了苹果与梨茎尖外植体褐变的机理；建立了克服苹果与梨茎尖外植体褐变的有效方法、促进苹果与梨试管苗增殖的关键技术、梨试管苗的直接生根技术及苹果试管苗微型嫁接技术。上述研究在国际刊物上发表 11 篇论文，其中在 SCI 刊物上发表论文 6 篇，应邀参加国际学术会议两次，并作大会发言。

C. 1999-2008 年间，主要研究园艺植物与薯类植物的超低温冷冻机理与技术，转基因技术和分子生物学技术。对国际该领域的主要学术贡献包括：a. 成功地建立了葡萄、柑桔、马铃薯、甘薯、树梅

等植物的茎尖和细胞的超低温冷冻保存技术； b. 把超低温冷冻技术与转基因技术结合，显著提高葡萄转基因细胞的转化率与成苗率； c. 成功地建立了葡萄、马铃薯、甘薯等植物的茎尖超低温冷冻脱毒技术和脱除甘薯植原体技术； d. 成功地创立了热处理加茎尖超低温冷冻脱毒技术，有效地脱除了树莓丛状矮化病毒； e. 利用生物技术、分子生物学技术、组培技术、超低温冷冻技术、病毒定位技术、电镜技术、解剖技术等揭示了茎尖超低温冷冻脱除病原菌的机理。成为国际上茎尖超低温冷冻脱除病原菌研究的奠基人之一。上述研究在 SCI 刊物上发表 18 篇论文，发表专著章节 5 章。应邀参加国际学术会议三次，并作大会发言。

## 5. 在国际刊物上发表的主要论文与著作

### Main publications in international journals

51. Wang B, Ma YL, Zhang ZB and Wang QC (2011)  
Cryopreservation of china' s potato shoot tips by vitrification, encapsulation-vitrification and droplet-vitrification. First International Symposium on Horticultural crops in China. June, 2011, Yangling, Shaanxi, PR. China (Abstract).

50. Yin ZF, Chen L, Zhao B, Zhu YQ and Wang QC (2011) In vitro shoot regeneration and cryopreservation of Lilium spp. by vitrification. First International Symposium on

Horticultural crops in China. June, 2011, Yangling, Shaanxi, PR. China (Abstract).

49. Feng CH, Cui ZH, Li BQ, Ma YL and Wang QC (2011) Cryopreservation of in vitro-grown shoot tips of apple (*Malus*) by encapsulation-dehydration. First International Symposium on Horticultural crops in China. June, 2011, Yangling, Shaanxi, PR. China (Abstract).

48. Zhang ZB, Wang B, Ma YL and Wang QC. 2011. Novel and potential application of cryopreservation to transgenic formation. *Biotechnology Advances*. doi:10.1016/j.biotechadv.2011.10.008.

47. Yin ZF, Chen L, Zhao M and Wang QC. 2011. Cryopreservation of embryogenic cell suspensions by encapsulation-dehydration and encapsulation-vitrification. Humana Press (in press).

46. Wang B, Ma YL, Zhang ZB, Wu ZM, Wu YF, Wang QC, Li MF (2011) Potato viruses in China. *Crop Protection*. 30: 1117–1123.

45. Feng CH, Yin ZF, Zhang ZB, Ma YL, Wang B and Wang QC. 2011. Plant pathogen elimination by cryotherapy of shoot tips. Springer, Netherland (in press).

44. Feng CH, Yin ZF, Ma YL, Zhang ZB, Chen L, Li BQ, Huang YS, Wang B, and Wang QC. 2011. Cryopreservation of sweetpotato and its pathogen elimination by cryotherapy. *Biotechnology Advances*, 29: 84–93.

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41. Wang QM, Zhang LM, Wang B, Yin ZF, Feng CH and Wang QC. 2010. Sweetpotato viruses in China. *Crop Protection*. 29:110–114.

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39. Wang QC, Panis B, Engelmann F, Lambardi M and Valkonen JPT (2009) Cryotherapy of shoot tips: a technique for pathogen eradication to produce healthy planting materials and prepare healthy plant genetic resources for cryopreservation. *Annals of Applied Biology*. 154: 351–363

38. Wang QC and Valkonen JPT. 2009. Cryotherapy of shoot tips: novel pathogen eradication method. *Trends in Plant Science*, 14:119–122.

37. Wang QC and Valkonen JPT. 2009. Improved recovery of cryo-treated shoot tips following thermotherapy of in vitro

stock shoots of raspberry (*Rubus idaeus* L.). *CryoLetters*, 30(3): 171–182.

36. Zhang LM, Wang QM, Liu QC and Wang QC. 2009. Sweetpotato in China. In: *Biology and Biotechnology of Sweetpotato*. Eds: Loebenstain G. and Thottappilly G, Springer Netherland, pp. 325–358.

35. Wang B, Yin ZF, Feng CH, Shi X, Li YP and Wang QC. 2009. Cryopreservation of potato shoot tips. In: Benkeblia N, Tennant P (Eds) *Potato I. Fruit, Vegetable and Cereal Science and Biotechnology 2 (Special Issue 1)*, pp. 46–53, Global Science Book, London.

34. Wang QC and Valkonen JPT. 2008. Elimination of two synergistically interacting viruses from sweetpotato by shoot tip culture and cryotherapy of shoot tips. *Journal of Virological Methods*. 154, 135–145

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32. Nukari A, Wang QC, Uosukainen M, Laamanen J, Rokka V. –T, Rantala S and Valkonen JPT 2008. Evaluation of encapsulation and droplet vitrification methods in gene preservation work. *Cryopreservation of crop species in Europe, CRYOPLANET – COST Action 871*, February 2008, Oulu, Finland, pp. 55–56

31. Wang QC and Valkonen JPT. 2008. Efficient elimination of sweetpotato little leaf phytoplasma by cryotherapy of shoot tips (*Ipomoea batatas* L.). *Plant Pathology*, 57:338–347.

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29. Wang QC and Valkonen JPT. 2007. Elimination of viruses and phytoplasma by cryotherapy of in vitro-grown shoot tips of sweet potato and raspberry. An Invited Lecturer, European Cost Action Meeting. 11–12th of May, 2007. Florence, Italy.

28. Wang QC and Valkonen JPT. 2007. Elimination of viruses and phytoplasma by cryotherapy of in vitro-grown shoot tips: Analysis of all cases. *Advances in Horticultural Science*, 21: 265–269.

27. Wang QC and Valkonen JPT. 2007 Cryopreservation of in vitro-grown shoot tips of raspberry. In: *Plant Cryopreservation of plants: A Practical Guide*, R. Babara (ed). Springer-Valerg. pp. 333–365.

26. Wang QC. 2007 Cryopreservation of in vitro-grown shoot tips of grapevine. In: *Plant Cryopreservation of plants: A Practical Guide*, R. Babara (ed). Springer-Valerg. pp. 333–365.

25. Wang QC and Perl A. 2006. Cryopreservation in Floricultural Crops. In: Jaimie T. da Silva (ed), *Floricultural*,

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Global Science Books, London. Chapter 58. pp. 523–539.

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23. Wang QC and Perl A. 2005. Cryopreservation of embryogenic cell suspensions by encapsulation–vitrification. In: Víctor M. Loyola–Vargas and Felipe Vázquez–Flota, *Plant Cell Culture Protocols, Methods in Molecular*, Humana Press, USA, Chapter 17, pp. 77–86.

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19. Wang QC, Mawassi M, Sahar N, Li P, Violeta C.-T, Gafny R, Sela I, Tanne E, Perl A (2004) Cryopreservation of grapevine (*Vitis* spp.) embryogenic cell suspensions by encapsulation - vitrification. *Plant Cell, Tissue and Organ Culture*, 77: 267 - 275.

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