

教师姓名：徐彬
职称：教授

出生年月：1979.12
籍贯：山东省枣庄市



研究方向：草类植物分子遗传与育种

讲授课程：《学科导论》、《分子生物学》、《牧草种子学》、
《专业英语文献阅读和写作》、《草类植物分子生物学进展》（研究生课程）

学术兼职：

《Grass and Forage Science》副主编（2018-至今）
中国草学会草坪专业委员会理事、副秘书长（2016-至今）
中国草学会草业专业教育专业委员会理事（2017-至今）
中国草学会草业生物技术专业委员会理事（2014-至今）

办公房间：理科南楼 F308 室

办公电话：02584396857 E-mail: binxu@njau.edu.cn

学习经历

2007.08-2011.06, 美国弗吉尼亚理工大学, 园艺学, 博士
2005.08-2007.08, 美国北达科他州立大学, 植物科学, 农学硕士
2002.09-2005.07, 南京农业大学, 园林植物与观赏园艺学, 农学硕士
1998.09-2002.07, 山东农业大学, 园艺学, 农学学士

工作经历

2015.07-至今, 南京农业大学草业学院, 副院长
2019.12-至今, 南京农业大学草业学院, 教授/博导
2018.12-2019.12, 南京农业大学草业学院, 副教授/博导
2013.07-2018.12, 南京农业大学草业学院, 副教授/硕导
2017.08-2018.08, 美国诺贝尔研究所, 访问学者
2012.08-2013.06, 龙灯环球农业科技, 项目经理
2011.07-2012.08, 金斯瑞生物科技有限公司, 工作

荣誉及称号

弗吉尼亚理工大学杰出近期研究生校友（Outstanding Recent Graduate Alumnus）（2018）
江苏省“青蓝工程”优秀青年骨干教师（2017）
江苏省双创团队核心成员（2014）
南京农业大学钟山学者学术新秀（2013）
P. Howard & Betsy Massey 研究生奖（2009）;
弗吉尼亚理工大学研究生院旅行奖（2009）;
弗吉尼亚理工大学植物科学杰出研究生（2009）;
Phi Sigma Biology Honor Society 会员(成员为前 10%的生物专业学生);
Gamma Sigma Delta 会员（协会成员为前 10%农学专业学生）

研究项目

- CRISPR/Cas9 编辑 LpNOL 启动子中关键热响应元件创制耐热多年生黑麦草新种质 (2020/1-2023/12) 国家自然科学基金面上项目 (31971757) 主持 58 万
- 多年生黑麦草转录因子 LpNAL 的互作蛋白鉴定及协同调控逆境诱导叶片衰老的作用机制(2018/01-2022/12)国家自然科学基金面上项目(31772659) 主持 60 万
- 黑麦草叶片衰老过程中 LpSGR 调控叶绿素降解的上游通路探析 (2016/01-2019/12) 国家自然科学基金面上项目 (31572455) 主持 72 万
- 细胞分裂素抑制黑麦草叶片衰老及叶绿素降解的机制研究 (2015/01-2017/12) (KYZ201552) 中央高校基本科研业务费主持 10 万
- 多年生黑麦草叶绿素降解调控基因的克隆与应用研究 (2014/07-2016/06) 江苏省自然科学基金 (BK20140693) 主持 20 万
- 牛至品种选育和栽培技术 (2019/12) 企业横向课题 主持 20 万
- 江苏省双创团队 (2014) 参加 500 万

学术论文

(*Corresponding author)

1. Yu G, Xie Z, Zhang J, Lei S, Lin W, **Xu B***, Huang B*. (2021) NOL-mediated functional stay-green traits in perennial ryegrass (*Lolium perenne* L.) involving multifaceted molecular factors and metabolic pathways regulating leaf senescence. The Plant Journal (on line first).
2. Zhang J, Li H, Jiang Y, Li H, Zhang Z, Xu Z, **Xu B***, Huang B. (2020) Natural variation of physiological traits, molecular markers, and chlorophyll catabolic genes associated with heat tolerance in perennial ryegrass accessions. BMC Plant Biology 20: 520
3. Zhang J, Wen W, Li H, Lu Q, **Xu B***, Huang B. (2020) Overexpression of an aquaporin gene PvPIP2;9 improved biomass yield, protein content, drought tolerance and water use efficiency in switchgrass (*Panicum virgatum* L.). GCB Bioenergy 12: 979-991
4. Zhong X*, Qian C, Hao, Liu Z, Wu J, Shao Y, **Xu B***. (2019) Endophytic *Bacillus megaterium* BM18-2 mutated for cadmium accumulation and improving plant growth in Hybrid Pennisetum. Biotechnology Reports 24: e00374
5. Xie Z, Lin W, Yu G, Cheng Q, **Xu B***, Huang B* (2019) Improved cold tolerance in switchgrass by a novel CCCH-type zinc finger transcription factor gene, PvC3H72, associated with regulation of ICE1–CBF–COR regulon and ABA-responsive genes. Biotechnology for Biofuels 12: 224
6. Yan H, Bombarely A, **Xu B**, Wu B, Frazier F, Zhang X, Chen J, Chen P, Sun M, Feng G, Wang C, Cui C, Li Q, Zhao B, Huang L (2019) Autopolyploidization in switchgrass alters phenotype and flowering time via epigenetic and transcription regulation. Journal of Experimental Botany 70:5673–5686
7. Zhang J, Xing J, Lu Q, Yu G, **Xu B***, Huang B* (2019) Transcriptional regulation of chlorophyll-catabolic genes associated with exogenous chemical effects

- and genotypic variations in heat-induced leaf senescence for perennial ryegrass. Environmental and Experimental Botany 167:103858-103859
8. **Xu B**, Yu G, Li H, Xie Z, Wen W, Zhang J, Huang B (2019) Knockdown of STAYGREEN in perennial ryegrass (*Lolium perenne* L.) leads to transcriptomic alterations related to suppressed leaf senescence and improved forage quality. Plant and Cell Physiology 60:202-212
 9. Yan H, Bombarely A, **Xu B**, Frazier TP, Wang C, Chen P, Chen J, Hasing T, Cui C, Zhang X, Zhao B, Huang L (2018) siRNAs regulate DNA methylation and interfere with gene and lncRNA expression in the heterozygous polyploid switchgrass. Biotechnology for Biofuels 11 (1):208.
 10. Song G, Yuan S, Wen X, Xie Z, Lou L, Hu B, Cai Q*, **Xu B*** (2018) Transcriptome analysis of Cd-treated switchgrass root revealed novel transcripts and the importance of HSF/HSP network in switchgrass Cd tolerance. Plant Cell Reports 37 (11):1485-1497.
 11. **Xu B**, Li H, Li Y, Yu G, Zhang J, Huang B (2018) Characterization and transcriptional regulation of chlorophyll b reductase gene NON-YELLOW COLORING 1 associated with leaf senescence in perennial ryegrass (*Lolium perenne* L.). Environmental and Experimental Botany 149: 43-50
 12. Zhang J, Shi Y, Zhang X, Du H, **Xu B***, Huang B* (2017) Melatonin suppression of heat-induced leaf senescence involves crosstalk with abscisic acid and cytokinin biosynthesis and signaling pathways in perennial ryegrass (*Lolium perenne* L.) Environmental and Experimental Botany 138:36-45 (高被引论文)
 13. Yu G, Cheng Q, Xie Z, **Xu B***, Huang B*, Zhao B (2017) An efficient protocol for perennial ryegrass mesophyll protoplast isolation and transformation, and its application on interaction study between LpNOL and LpNYC1. Plant Methods 13 (1):46
 14. Yan H, Zhang A, Ye Y, **Xu B***, Chen J, He X, Wang C, Zhou S, Zhang X, Peng Y, Ma X, Yan Y, Huang L* (2017) Genome-wide survey of switchgrass NACs family provides new insights into motif and structure arrangements and reveals stress-related and tissue-specific NACs. Scientific Reports 7 (1):3056.
 15. Yan H, Zhang A, Chen J, He X, **Xu B***, Xie G, Miao Z, Zhang X, Huang L* (2017) Genome-Wide Analysis of the PvHsp20 Family in Switchgrass: Motif, Genomic Organization, and Identification of Stress or Developmental-Related Hsp20s. Frontiers in Plant Science 8:1024.
 16. Wen W, Xie Z, Yu G, Zhao C, Zhang J, Huang L, **Xu B***, Huang B (2017) Switchgrass PvDREB1C plays opposite roles in plant cold and salt tolerance in transgenic tobacco. Hereditas 155 (1):15
 17. Zhang L, **Xu B**, Wu T, Yang Y, Fan L, Wen M, Sui J (2017) Transcriptomic profiling of two Pak Choi varieties with contrasting anthocyanin contents provides an insight into structural and regulatory genes in anthocyanin biosynthetic pathway. BMC Genomics 18 (1):288.
 18. Zhang L, **Xu B**, Wu T, Wen M-x, Fan L-x, Feng Z-z, Paoletti E (2017) Transcriptomic analysis of Pak Choi under acute ozone exposure revealed regulatory mechanism against ozone stress. BMC Plant Biology 17 (1):236.

19. Zhang J, Yu G, Wen W, Ma X, **Xu B***, Huang B* (2016) Functional characterization and hormonal regulation of the *PHEOPHYTINASE* gene LpPPH controlling leaf senescence in perennial ryegrass. Journal of Experimental Botany 67:935-945.
20. Yu Z, Yan H, Jiang X, Wang X, Huang L, **Xu B**, Zhang X, Zhang L (2016) Genetic variation, population structure and linkage disequilibrium in Switchgrass with ISSR, SCoT and EST-SSR markers. Hereditas 153:4.
21. Zhang J, Li H, **Xu B**, Li J, Huang B (2016) Exogenous Melatonin Suppresses Dark-Induced Leaf Senescence by Activating the Superoxide Dismutase-Catalase Antioxidant Pathway and Down-Regulating Chlorophyll Degradation in Excised Leaves of Perennial Ryegrass (*Lolium perenne* L.). Frontiers in Plant Science 7:1500.
22. Chen Y, Huang L, Yan H, Zhang X, **Xu B**, Ma X (2016) Cloning and characterization of an ABA-independent DREB transcription factor gene, HcDREB2, in *Hemarthria compressa*. Hereditas 153:1-7.
23. Yuan S, **Xu B ***, Zhang J, Xie Z, Cheng Q, Yang Z, Cai Q *, Huang B (2015) Comprehensive analysis of CCCH-type zinc finger family genes facilitates functional gene discovery and reflects recent allopolyploidization event in tetraploid switchgrass. BMC Genomics 16:129.
24. Zhuang L, Yuan X, Chen Y, **Xu B**, Yang Z, Huang B (2015) PpCBF3 from Cold-Tolerant Kentucky Bluegrass Involved in Freezing Tolerance Associated with Up-Regulation of Cold-Related Genes in Transgenic *Arabidopsis thaliana*. PloS one 10:e0132928.
25. Yang Y, Chen X, **Xu B**, Li Y, Ma Y, Wang G (2015) Phenotype and transcriptome analysis reveals chloroplast development and pigment biosynthesis together influenced the leaf color formation in mutants of *Anthurium andraeanum* 'Sonate'. Frontiers in Plant Science 6:139.
26. Chen Y, Tan Z, Hu B, Yang Z, **Xu B**, Zhuang L, Huang B (2015) Selection and validation of reference genes for target gene analysis with quantitative RT-PCR in leaves and roots of bermudagrass under four different abiotic stresses. Physiologia Plantarum 155:138-148.
27. Huang L, Yan H, Jiang X, Zhang Y, Zhang X, Ji Y, Zeng B, **Xu B**, Yin G, Lee S (2014) Reference gene selection for quantitative real-time reverse-transcriptase PCR in orchardgrass subjected to various abiotic stresses. Gene 15:158-165.
28. Huang L, Yan H, Jiang X, Zhang X, Zhang Y, Huang X, Zhang Y, Miao J, **Xu B**, Frazier T (2014) Evaluation of candidate reference genes for normalization of quantitative RT-PCR in switchgrass under various abiotic stress conditions. BioEnerg Res 7:1201-1211.
29. Cheng Q, Wang H, **Xu B**, Zhu S, Hu L, Huang M (2014) Discovery of a novel small secreted protein family with conserved N-terminal IGY motif in Dikarya fungi. BMC Genomics 15:1151.
30. Sathitsuksanoh N[¶], **Xu B[¶]**, Zhao B, Zhang Y-HP (2013) Overcoming biomass recalcitrance by combining genetically modified switchgrass and cellulose

- solvent-based lignocellulose pretreatment. PloS one 8:e73523. (†co-first author)
31. **Xu B**, Sathitsuksanoh N, Tang Y, Udvardi MK, Zhang J-Y, Shen Z, Balota M, Harich K, Zhang PY-H, Zhao B (2012) Overexpression of AtLOV1 in switchgrass alters plant architecture, lignin content, and flowering time. PloS one 7:e47399.
 32. **Xu B**, Escamilla-Treviño LL, Sathitsuksanoh N, Shen Z, Shen H, Zhang PYH, Dixon RA, Zhao B (2011) Silencing of 4-coumarate: coenzyme A ligase in switchgrass leads to reduced lignin content and improved fermentable sugar yields for biofuel production. New Phytologist 192:611-625. (高被引论文)
 33. **Xu B**, Huang L, Shen Z, Welbaum GE, Zhang X, Zhao B (2011) Selection and characterization of a new switchgrass (*Panicum virgatum* L.) line with high somatic embryogenic capacity for genetic transformation. Scientia Horticulturae 129:854-861.
 34. Huang L, Bughrara S, Zhang XQ, Bales-Arcelo C, **Xu B** (2011) Genetic diversity of switchgrass and its relative species in *Panicum* genus using molecular markers. Biochemical Systematics and Ecology 39:685-693.
 35. 卢奇宇, 蔡东, 许志鹏, 刘信宝, 吕守正, 樊化, **徐彬** (2019) 植物生长调节剂和物理处理对牛至种子萌发的影响. 植物学研究 8(3): 204-211.
 36. **徐彬**, 陈海钟, 郭维明, 王广东, 文方德, 金剑平 (2007) 花烛无菌苗液体增殖培养的影响因子. 热带亚热带植物学报 15 (4):338-342
 37. **徐彬**, 王广东, 郭维明, 文方德 (2007) 花烛苞片离体培养及植株再生(简报). 亚热带植物科学 36 (4):55-55
 38. **徐彬**, 辛伟杰, 王广东, 郭维明, 文方德, 金剑平 (2006) 花烛离体培养叶色变异株系的相关性状. 植物学通报 23 (6):698-702
 39. 辛伟杰, **徐彬**, 王广东, 郭维明, 文方德, 金剑平 (2006) 花烛体细胞胚胎发生及植株再生研究. 园艺学报 33 (6):1281-1286

教改论文和教学成果

武昕宇,郝雪,**徐彬**,李俊龙.大学生政治技能形成的影响因素及提升策略——基于A大学的实证研究[J].高等农业教育,2020(06):9-15.

尤兰芳,陆玲,**徐彬**,李俊龙.麻省理工学院本科生科研训练激励机制分析及启示[J].中国农业教育,2018(06):66-71.

周佳慧,**徐彬**,魏威岗.专业学位研究生培养中“双师型”教师的培育[J].产业与科技论坛, 2019,18(06):254-256.

高务龙、**徐彬**、邵星源、何晓芳、周佳慧. 草业科学专业“三段两线”实践教学体系的研究与实践. 南京农业大学2016年度教学成果一等奖.

徐彬、高务龙、武昕宇、李俊龙、郭振飞. 构建和践行“贯穿式、协同式”实践教学模式 -以草业科学专业为例. 南京农业大学2020年度教学成果一等奖.

徐彬. 第一届草学教学指导委员会青年授课比赛优秀奖. 2019. 教育部高等学校草学类教学指导委员会

培养研究生

2013 级 张敬（博；合作指导）

2014 级 谢哲倪（学） 文武武（专） 余国辉（博；合作指导）

2015 级 李慧（学） 董自宇（专） 李玉（学；合作指导）

2016 级 卢奇宇（学） 许志鹏（专）

2017 级 林文静（学） 郝欢欢（专）

2018 级 罗思敏（学） 张晴 王怡超（专） 张晨晨（专）

2019 级 姚佳明（学） 殷庭超（专） 雷珊珊（博）

2020 级 黄心如（学） 何悦（专） 郭贺峰（专） 郝欢欢（博）