



CONSORTIUM FOR GLOBALIZATION OF CHINESE MEDICINE

中药全球化联盟



Beijing
北京

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Beijing	
1	Beijing Cancer Hospital & Institute
2	Beijing Technology and Business University
3	Beijing University of Chinese Medicine
4	China Academy of Chinese Medical Science
5	China-Japan Friendship Hospital
6	Chinese Academy of Medical Sciences & Peking Union Medical College
7	Institute of Microbiology, CAS (IM-CAS)
8	National Engineering Research Center for Crop Molecular Design (NCCMD)
9	Peking University
10	PLA Institute of Chinese Materia Medica
11	Tsinghua University



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China-Japan Friendship Hospital



China-Japan Friendship Hospital

- ◆ The largest modern hospitals characterized by integration of Chinese medicine and western medicine in China
- ◆ Established through the cooperation of the Chinese and Japanese governments in 1984
- ◆ Covers 9.7 hectares, total of 1,800 beds and 58 departments

Institute of Clinical Medical Sciences

- ◆ Established in 1985 by approval of Ministry of Health
- ◆ Area of over 6000 square meters and 54 scientific research staff
- ◆ Central laboratory and four research departments





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Prof. Ping Li' team

- ◆ Area: Clinical and basic research about traditional Chinese Medicine for diabetic nephropathy
- ◆ Achievement:
 - Verified clinical efficacy of TCM for DN with macroalbuminuria
 - Developed a Chinese herb medicine(Tangshen Formula) for DN and clarified its molecular mechanism.

- ◆ Beijing Key Lab Immune-Mediated Inflammatory Diseases
- ◆ Key Research Lab of SATCM (Therapeutic evaluation for kidney disease)
- ◆ Third level Lab of SATCM(Pharmacology of Chinese Materia Medica for kidney disease)



Awards

- ◆ Second Prize of the State Science and Technology Progress (2016)
- ◆ First Prize of Science and Technology Award, China Association of Chinese Medicine(2015)

- ◆ The Funds for International Cooperation and Exchange of NSFC(2017)
- ◆ The Youth Project of NSFC (2017)
- ◆ National Science and Technology Major Project (2017)



Grants

Publications

- Wen Y, Yan M, Zhang B *et al.* Nephrology (Carlton). Suppl 4:50-55 (2017).
- Gu Y, Wang Y, Zhang H *et al.* J Zhejiang Univ-Sci B (Biomed & Biotechnol) , 18(9):770-777 (2017).
- Jiang Y, Ma L, Han C *et al.* J Diabetes Res (2017).
- Chen P, Zhao J, Zhang H *et al.* Evid Based Complement Alternat Med. 2017:4064156 (2017).
- Zhang H, Zhao T, Li Z *et al.* J Diabetes Res. 2017:8391253 (2017).
- Zhao H, Li X, Zhao T *et al.* PLoS One. 12(2):e0171475 (2017).
- Zhang H, Wang H, Yan M *et al.* Immunotherapy 8(9), 1045-1057 (2016).
- Yang X, Zhang B, Lu X *et al.* BMC complementary and alternative medicine 16 246 (2016).
- Yan M, Wen Y, Yang L *et al.* Trials 17(1), 259 (2016).
- Yang L, Sun X, Zhan Y *et al.* Experimental and therapeutic medicine 11(4), 1410-1416 (2016).
- Wang H, Zhang H, Chen X *et al.* International journal of molecular medicine 37(5), 1290-1298 (2016).
- Zhao T, Sun S, Zhang H *et al.* PloS one 11(1), e0147693 (2016).

Protective Effects of Tangshen Formular on Renal Function and Lipid Metabolism

随机双盲, 安慰剂平行对照, 多中心临床研究

Random double blind, placebo parallel control, multicenter clinical trial

Registration No ChiCTR-TRC-10000843; ChiCTR-TRC-13003566

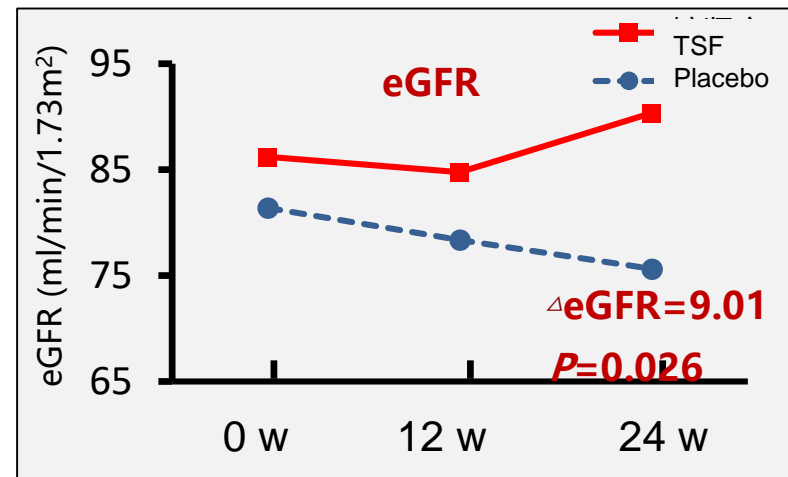
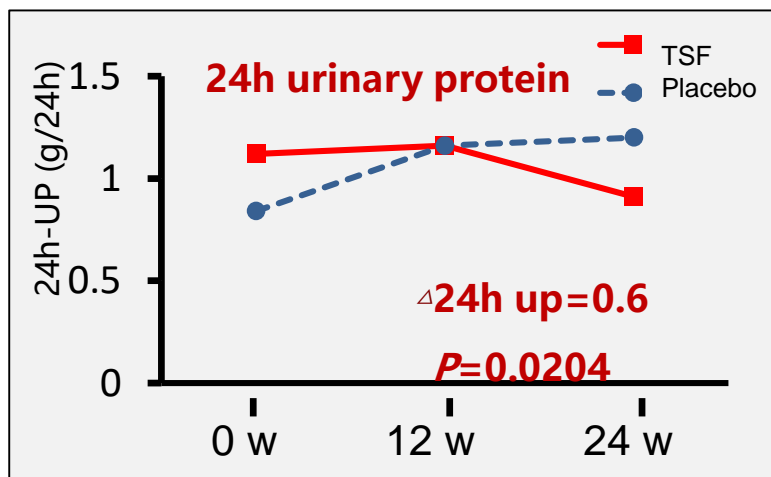
Number of cases 324 (180+144)

TSF group ACEI/ARB+TSF, twice/d

Placebo group ACEI/ARB+placebo, twice/d

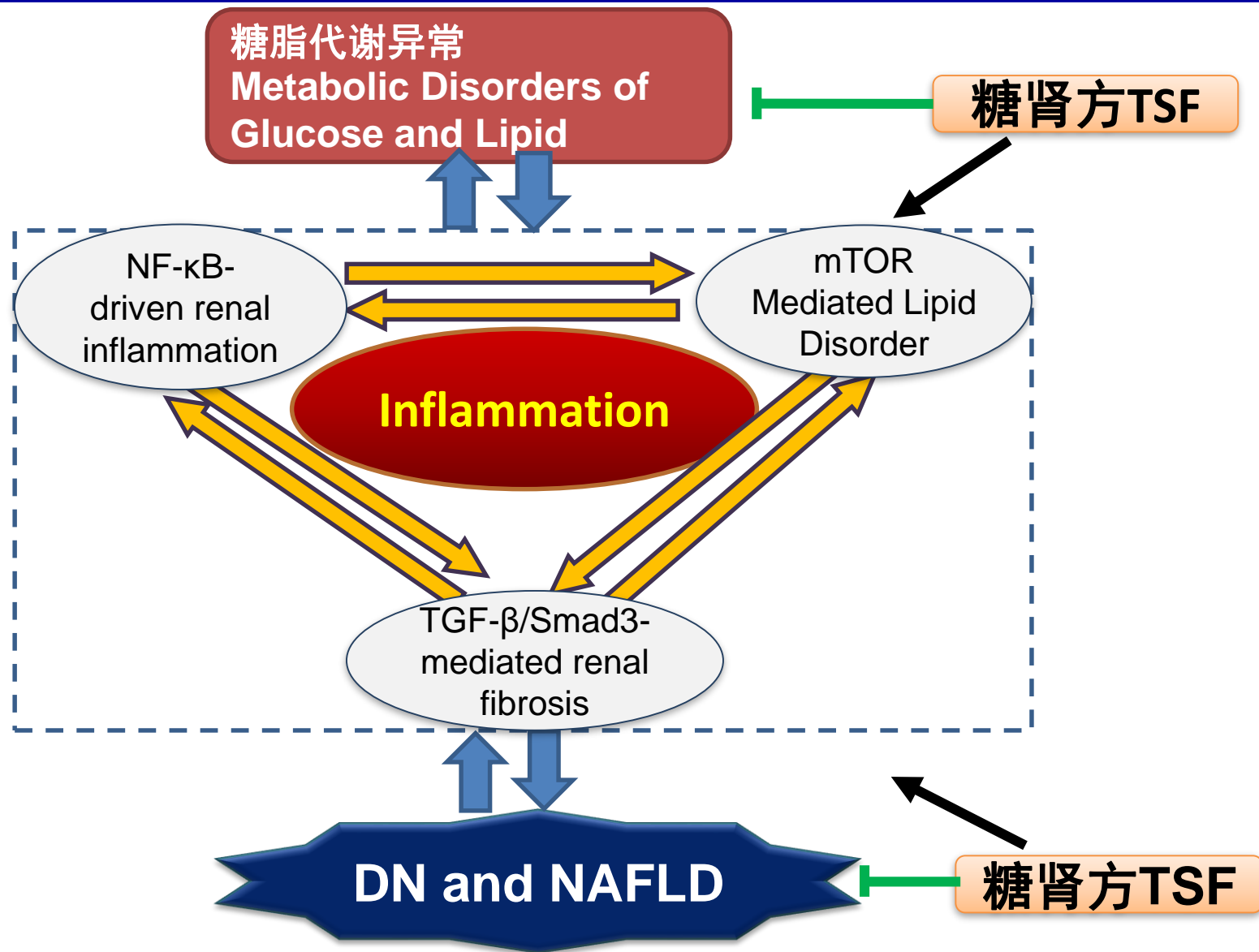
Intervention period 24 weeks

1、减少尿蛋白排泄, 提高肾小球滤过率 Reducing urinary protein excretion and improving the estimation of glomerular filtration rate (eGFR)



糖肾方治疗糖尿病肾病及非酒精性脂肪肝作用机制

Schematic Diagram of TSF Action in DN and NAFLD





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北京中医药大学

BEIJING UNIVERSITY OF CHINESE MEDICINE



中日友好医院

CHINA-JAPAN FRIENDSHIP HOSPITAL



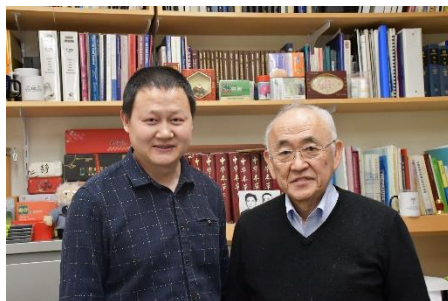
Prof. Yuan Xu and Jie-Kun Xu' team

◆ Area

- The chemical and pharmacological studies on TCM
- Research of new drugs origin from TCM

◆ Achievement

- Verified clinical efficacy of TCM for rheumatoid arthritis with Zhi-Wang-Tang (治尙汤)
- evaluating loganin (洛安宁) from *Cornus officinalis* (山茱萸) for depression as a candidate drug





Grants

- ◆ National Natural Science Foundation of China (2014, 2018)
- ◆ G20 Engineering Innovation Research Project of Beijing Municipal Science & Technology (2017)
- ◆ Chinese Academy of Medical Sciences Basic Research Business Fund Youth Medical Talent Award Project (2017)
- ◆ China-Japan Friendship Hospital Youth Science and Technology Excellence Project (2015, 2016)

Publications

- *Advanced Materials*. 2018, 30(16): e1707389
- *Chemical Communications*. 2018, 54(45): 5760-5763
- *Organic Chemistry Frontiers*. 2019, 6, 2312-2318
- *Frontiers in Pharmacology*. 2019, 10: 409
- *Organic & Biomolecular Chemistry*. 2019, 17, 2721-2724
- *Bioorganic Chemistry*. 2019, 82: 1-5
- *Fitoterapia*. 2018, 125: 240
- *Journal of Natural Products*. 2017, 80 (12): 3103
- *RSC Advances*. 2017, 7, 55859
- *Neuroscience Letters*. 2017, 659: 48
- *Fitoterapia*. 2017, 120: 136



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Cancer Hospital, CAMS/National Cancer Center



- ◆ Founded in 1958, the first cancer hospital in China
- ◆ Integrate medical care, teaching, research and prevention
- ◆ Ranked first among cancer Hospitals of the nation
- ◆ Headquarter of Asian National Cancer Center Alliance

- ◆ National Cancer Center
- ◆ National Clinical Cancer Research Center
- ◆ National Drug Clinical Research Center
- ◆ National Cancer Standardization Diagnosis and Treatment Quality Control Center





Academician of Chinese Academy of Sciences



Wu Min



Lu Shixin



He Jie

Academician of the Chinese Academy of Engineering



Sun Yan



Cheng
Shujun



Zhan
Qimin



Lin
Dongxin

- 7 Academicians
- 5 Recruitment Program of Global Experts
- 3 Cheung Kong Scholars
- 2 Recruitment Program of Global Experts in young people
- 3 Concord Medical
- 7 National Natural Science Funds for Distinguished Young Scholar
- 14 Outstanding contribution expert
- 7 New century key national candidate
- 1 "Technology Beijing" hundred talents
- 7 Beijing city science and technology new star
- 5 Union chair and Professor
- 6 Union New Star
- 1 foundation innovation group
- 1 team of The Ministry of education innovation
- 81 experts who enjoy special government allowance



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Department of TCM, Cancer Hospital, CAMS



- ◆ Seven staff and six with Ph.D degree;
- ◆ 4 postdoc fellow;
- ◆ 2 Ph.D candidates;
- ◆ 6 master candidates;
- ◆ 24 postgraduates with degrees

◆ Area:

- Cancer induced pain;
- Cancer bone metastasis;
- Dermatologic toxicities induced by anticancer therapies.

◆ Achievement:

- "Balance Blocking" Therapy: Establishment and Application of Prevention and Treatment Scheme for Cancer induced Pain
- Develop New Drug for Cancer induced Pain and bone metastasis (Yishengukang Formula and Gutong Formula)
- Develop New Drug for Dermatologic toxicities (Danxiong Formula)



CONSORTIUM FOR GLOBALIZATION OF CHINESE MEDICINE

中药全球化联盟



Department of TCM, Cancer Hospital, CAMS



AWARDS

- ◆ Third Prize of Chinese Association of Integrative Medicine (2018)
- ◆ Second Prize of China Association of Chinese Medicine (2017)
- ◆ Second Prize of China Association of Promoting Traditional Medicine (2015)
- ◆ Third Prize of the Capital Science and Technology Progress (2014)

- ◆ National Major Scientific and Technological Special Project for "Significant New Drugs Development" (2019)
- ◆ The Project of NSFC (2018)
- ◆ "Ten Diseases and Ten Drugs" of Beijing Science and Technology Commission (2017)
- ◆ The Youth Project of NSFC (2016)
- ◆ Fund for Beijing Science & Technology Development of TCM (2015)



GRANTS

Publications

- TIAN Ai-ping, YIN Yu-kun, YU Lei, et al. Chin J Integr Med, 2019.07
- Lixing Liu, Xiran He, Li Feng. Supportive Care in Cancer. 2019.07
- Aiping Tian, Haizhen Lu, Jingxuan Zhang, et al. Cancer Chemotherapy and Pharmacology, 2018, 81: 1025-1033.
- Meihua Han, Xiaoyu Qi, Dongdong Bi, et al. RSC Adv., 2018, 8: 23748-23756. DOI: 10.1039/c8ra02535e
- Yaohan Wang, Li Feng, Bingkui Piao, et al. Evidence-Based Complementary and Alternative Medicine, epub: 2017.10.4: 1~10
- Jin Xin, Wang Jue, Shen Huifen, et al. Journal of Traditional Chinese

Medicine, 2017.37 (3): 355-360

➢ Yin Yukun, Feng Li, Zhou Lei, et al. Journal of Traditional Chinese Medicine, 2017, 37 (01): 30~34

➢ Aiping Tian, Aiping Zhou, Xinyu Bi, et al. Evidence-Based Complementary and Alternative Medicine, 2017(2017):1-7.

➢ Jiayang Chen, Li Feng. Journal of Traditional Chinese Medicine, 2019.05 accept.

China Academy of Chinese Medical Science

Molecular Assisted Breeding System for TCM Herbs

基因组辅助紫苏新品种选育流程



紫苏全基因组重测序建立特异的SNP标记分子指纹图谱

	Unique SNPs	coding SNPs	nsSNPs	homozygous snSNPs
中研肥苏1号	1367	50	30	13
中研油苏1号	1140	47	32	10

贵州 云南 湖南 四川等地品种示范及推广1.03万亩

中研肥苏1号 丰产 高抗 紫苏叶产量亩产增产210%

中研油苏2号 高油 丰产 含油量高达45% 比普通紫苏高30%



第1完成人 京品鉴药2016054

紫苏全基因组辅助获得增产2倍 高油新品种

The First *Panax* Anti-disease Variety based on Marker-assisted Selection

• DNA标记辅助三七抗病品种选育流程



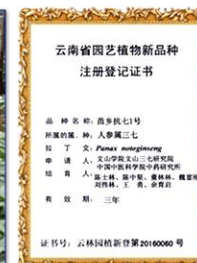
• 筛选并确定抗病群体特异SNP位点辅助系统选育

	665486	509355	519688	497540	307837	519888	153548	435169	433930	440571	440632	443525
抗病品种	AT	AG	CC	AG	AG	CG	CC	AC	TT	AG	AC	TT

• 经过4代选育 缩短育种年限



• 首个三七抗病新品种及良种（苗乡1号）

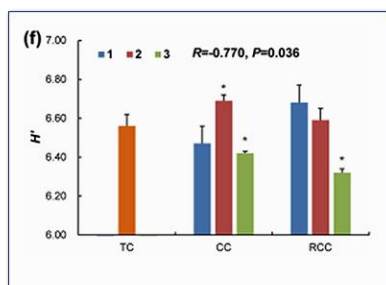


第1完成人

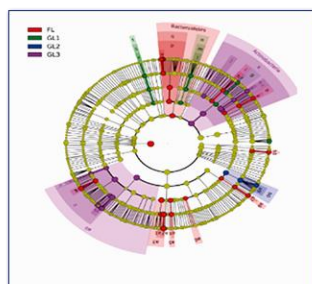
Pollution-Free Sanchi Cultivation

三七持续种植复合技术

- 土壤宏基因组揭示根际微生态失衡机制

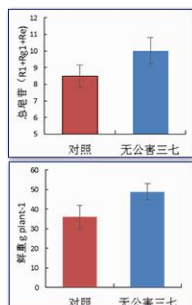


多样性下降



结构失衡

- 抗病品种 + 土壤修复 + 绿肥回田 + 菌剂调控



云南文山科技产业园 陈士林三七工作站

建立无公害生产基地14,534亩

- 良种繁育基地累计1140亩



面积320亩
根腐病发生率下降69%

面积420亩
一级、二级苗比例达到86%
种苗锈腐病发生率下降47%

面积400亩
一级、二级苗比例达到84%
种苗锈腐病发生率下降43%

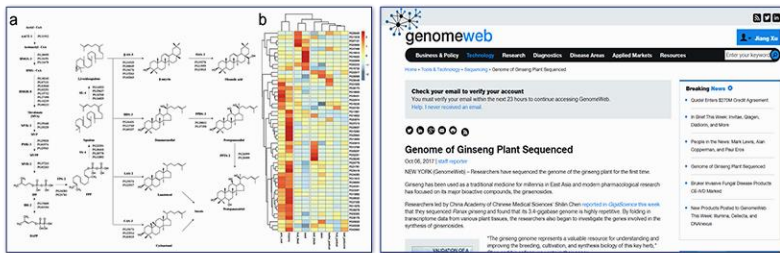
优质三七药材 助力产业升级

- 首个无公害三七质量标准



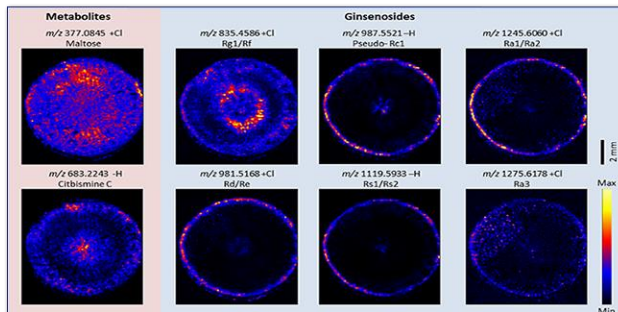
Release the Genome of *Panax ginseng*

- 人参伐林栽参面临不可持续困境
- 全基因组解析皂苷合成途径

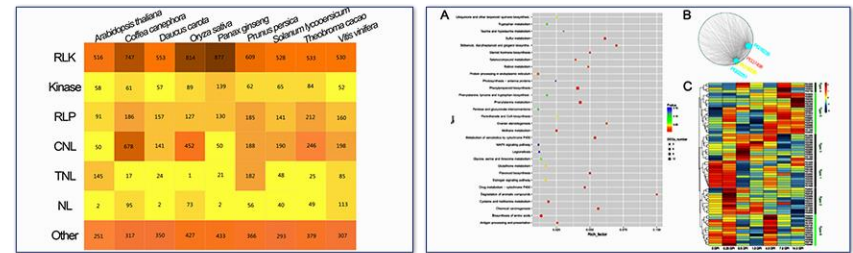


Genome web (美国): 首次完成人参植物基因组

- 质谱成像定位不同构型人参皂苷

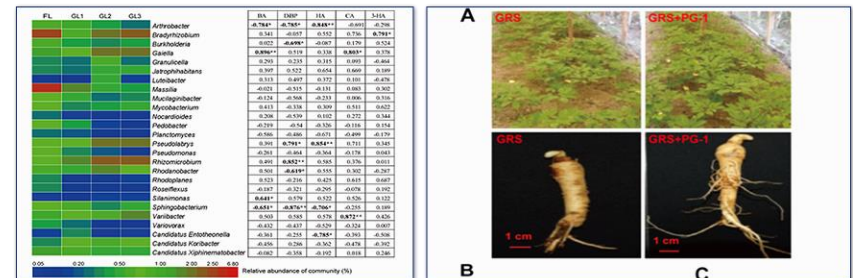


- 农田精细栽培基础薄弱
- 鉴定人参病害响应基因



共鉴定1652个抗病基因 开发病害检测分子标记

- 宏基因组揭示种植过程中人参土壤微生物环境变化



益生菌减少 致病菌积累 回接益生菌使人参死苗率下降40%

Plant Cell Reports 2011; Molecules 2017; Gigascience 2017

Pollution-free Ginseng Cultivation in Cropland Field

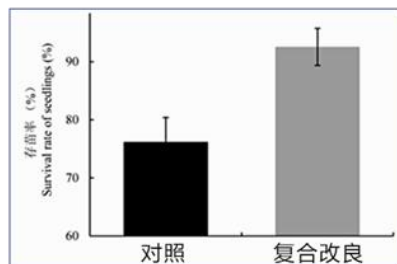
● 建立优质高产人参农田精细栽培SOP

● 土壤复合改良



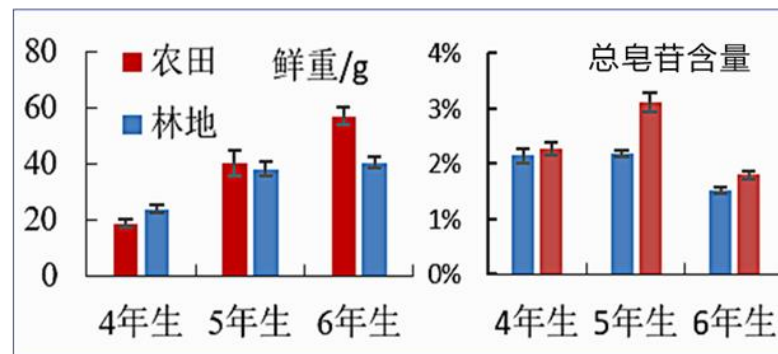
优选土壤消毒剂 (SDML)、绿肥、菌剂, 改良技术高效无公害

● 优化人参施肥追肥



人参存苗率提高超过20%

● 农田人参优质高产



● 中国规模化规范化精细农田栽参试验基地



建立核心示范基地1000亩 推广3000亩



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THANK YOU !