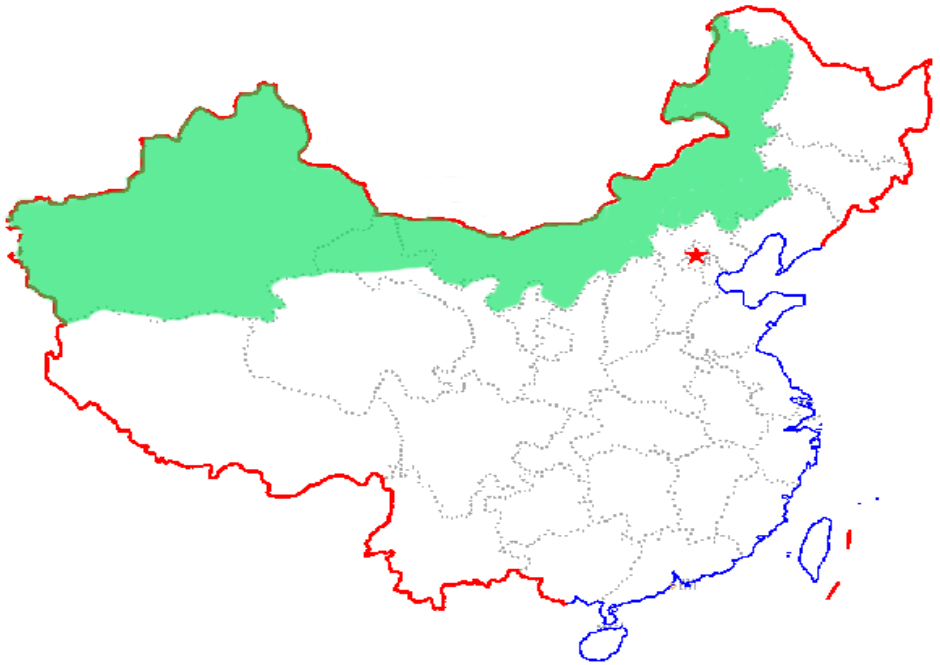
THROUGHT INNOVATION TO HELP LOCAL FARMERS TO GAIN RICH：A CASE IN LVYANG

REPORTER: Bolin Zhang, Suling Gan

***Jiangsu Lvyang Modern Ecological Agricultural Development* Co. LTD, Yangzhou, Jiangsu Province, China**

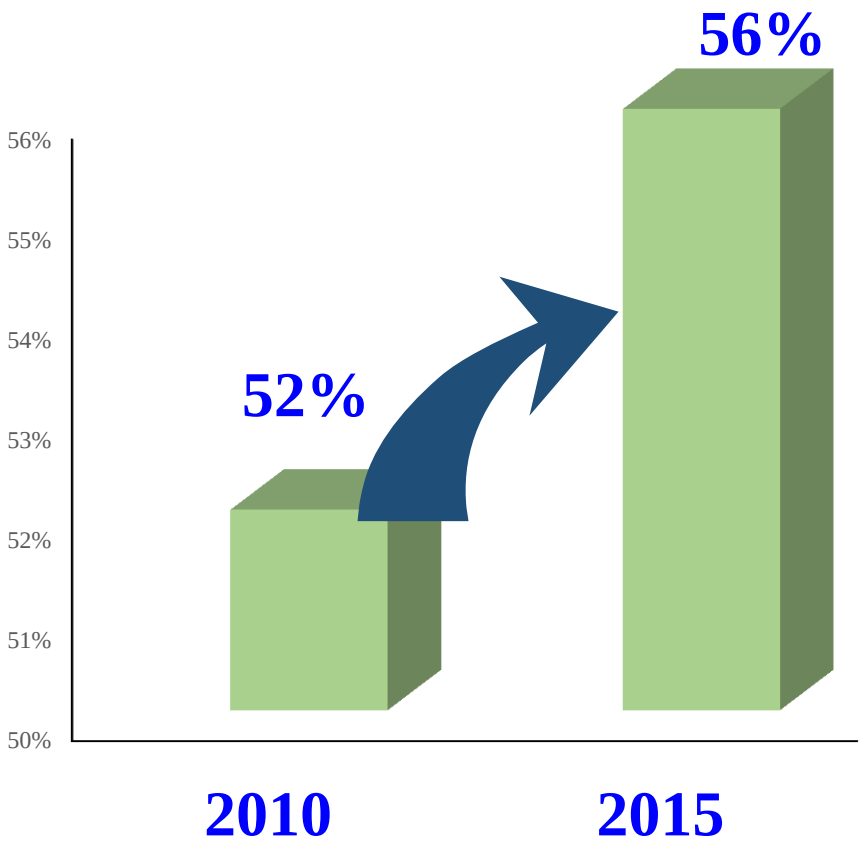
1. How to feed such a big population in China and in the future?



2. How Innovation is managed in Agriculture and Food Industry in China ?

1. Agricultural Technology
2. Policy
3. Enterprises-Universities Collaboration

1. Agricultural Technology



Improved Varieties > 43%

Crops Farming Mechanization Level ≈ 63%

Contribution of Agricultural Technology in China

Idea
共同理念

Supervise
公开监督

2. Policy

01 Branch Construction

We will set up **branches** in all provinces in China to create a **service network** covering the whole country.

03 Cooperative Alliance

Organize and **negotiate** communication between the **cooperative** and **family farm**.

02 Agricultural Project

Research & **Extension** of agricultural technology, project and technical service platform.

04 International Platform

- 01 Branch Construction
- 02 Agricultural Project
- 03 Cooperative Alliance
- 04 International Platform

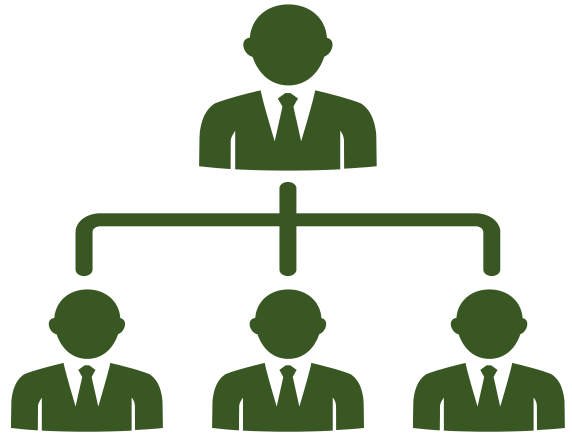
01 Branch Construction

China Agricultural Science & Technology Innovation Development Working Committee

Guoke ShengNong (Beijing) Eco Agricultural Science Research Institute

Select main provinces to establish sub-branches, and to develop High-Tech and Agricultural-Tech efficiently.

01 Branch Construction



- The branches carry out all kinds of tasks allocated, and realize the goals considering local agricultural characteristics.
- Assist local agricultural department; to help agricultural enterprises and farmers' professional cooperatives, family farms.
- Support local agriculture-based construction, participate in the local research service, push all kinds of local product.
- Provide the feasibility analysis for local agricultural enterprises and the Product Certificate Agency (e.g., Organic, Green, Pollution-free and International Quality System Certification).
- Sponsor training, forum, exhibition for local agriculture.

02 Agricultural Project

- To Solve difficulties existing in agricultural production, develop research in related projects, in order to overcome technique problems.
- By self-research, commissioned-research, or joint teaching-research-production, translate academics into practical application.
- The scientific and technological achievements of the study will be experimented in lab and then promote them to whole country, improving the agricultural economic benefits, social benefits, ecological benefits greatly.

Distribution of Farmers'Cooperative in China

04 International Platform

- Accelerate cooperation between domestic-foreign agricultural technology.
- Introduce foreign advanced technology.

Establish the platform for international cooperation, with Finnish partners.

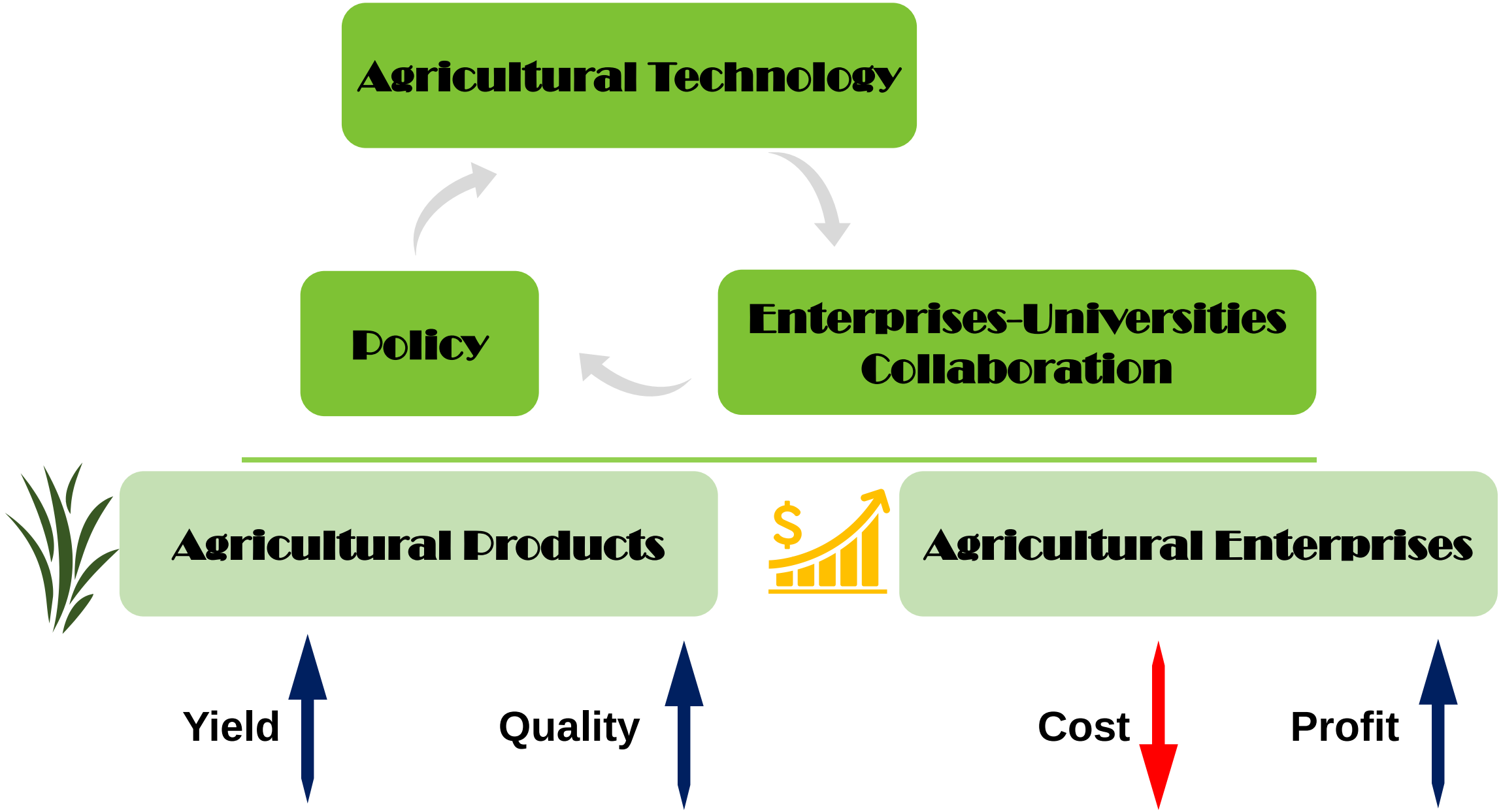
3. Enterprises-Universities Collaboration

- Market & Capital

- Technology Advisory Services
- Research & Development

Enterprises **Universities**

Universities help address challenged problems enterprises faced, which translate academic results into application efficiently.


Agricultural Technology
Enterprises-Universities Collaboration
Policy
Agricultural Products
Agricultural Enterprises
Yield
Quality
Cost
Profit

WHY Blueberry

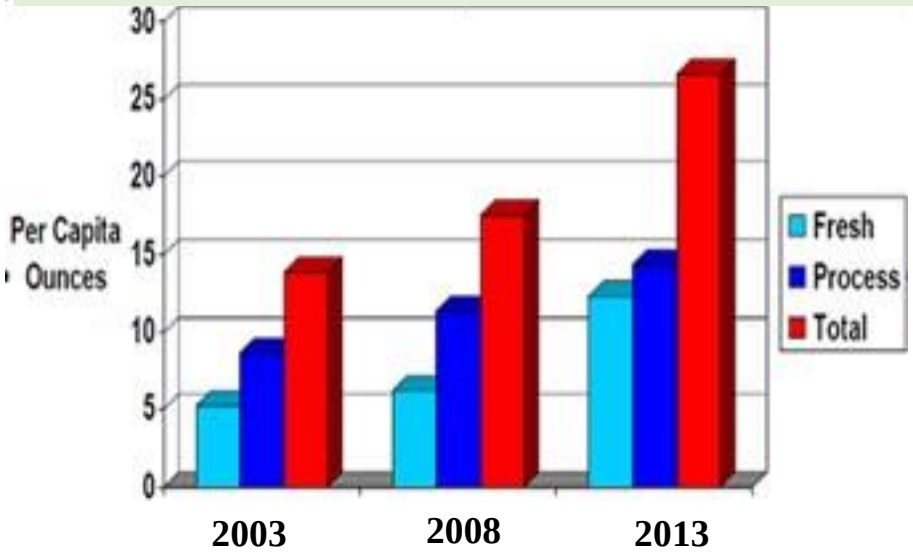
①Healthcare Values

——Alleviate eye fatigue & Enhance the night vision.

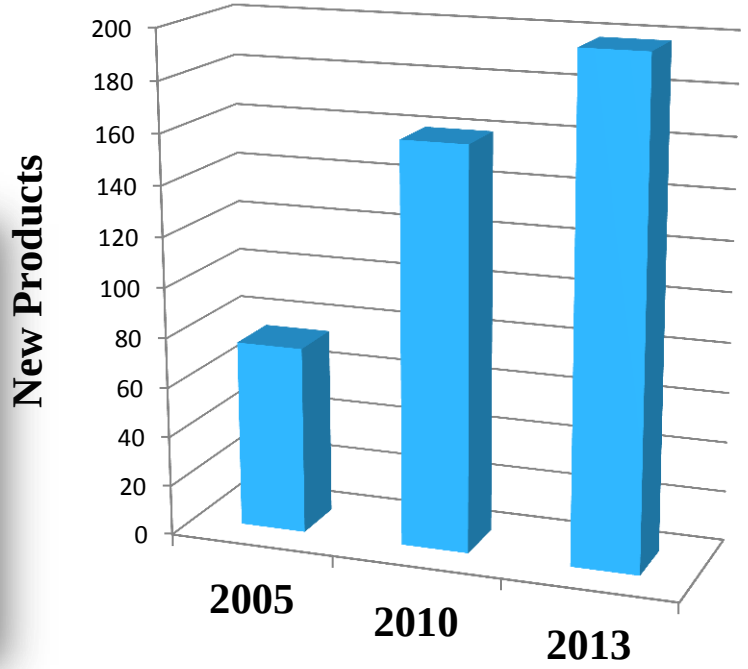
—— Antioxidant properties & Prevent cancer.

—— Delay aging process & Improve mem

② Incremental Consumption



③ New Product Development



High value, Large market, Great demand

1. Improved Varieties

01 New variety selection

02 Improved crops quality

03 Rapid propagation system establishment

04 High-yield techniques development

05 High-quality agricultural products

06 Agricultural products fine-processing

1. Improved Varieties

Blueberry MODE

"Orientation Cultivation

Fine-Processing Products"

Blueberry Germplasm resources with high Anthocyanin

Investigation and Evaluation

Improved Variety Breeding

Quality Orientation Improvement Techniques

Tissue Culture Technology

Rapid propagation Technology

High-Yield Techniques

Improved Variety Cultivation

R&D of deep–processing products

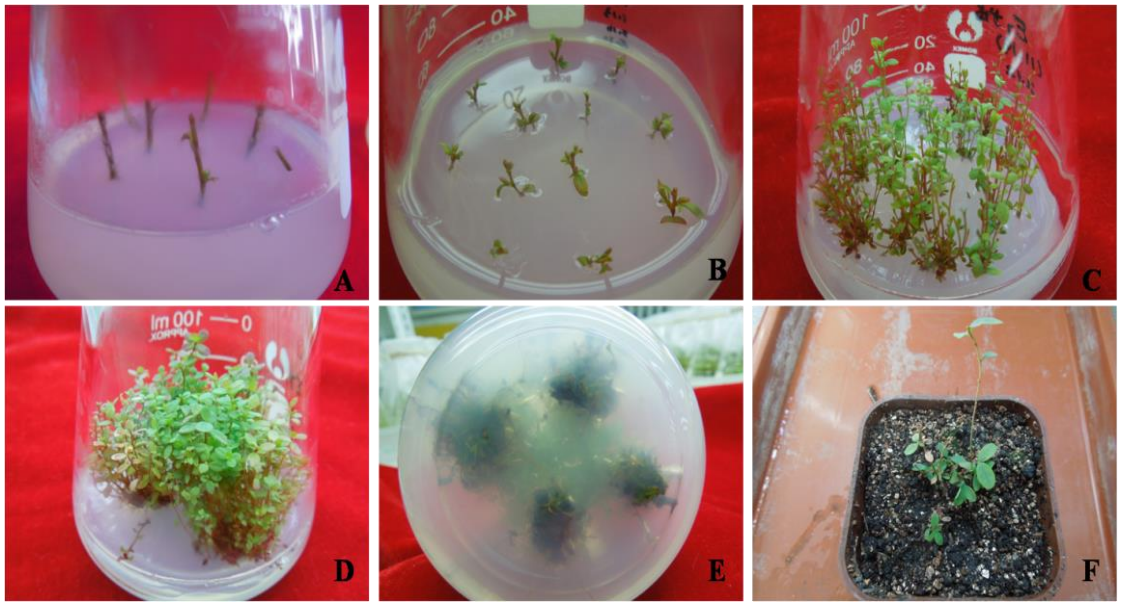
Improved Varieties

1. Micro Propagation Technology
2. Cold Storage Inhibiting Cultivation Technology
3. Fruit Management Techniques
4. Soil Improvement Technology
5. CO_2 Fertilization Technology
6. Shaping Pruning Technique

1 Micro Propagation Technology

Aiming at the specific variety of blueberry, we investigate the effect of substrates, rooting agent and cutting period on its rooting rate, to select the optimum medium and cutting matrix.

Breeding seedling survival rate reached 85%



2 Cold Storage Inhibiting Cultivation Technology

According to Chilling requirement, -2℃--3℃ can make the plants into mandatory dormancy; with germination index ≧2.5 and germination rate ≧50% as the standard, use gibberellin (or urea) to break dormancy, combining with the need for temperature and light, to move up or delay harvest period, improve the yield of blueberry.

3 Fruit Management Techniques

Fruit Management Techniques

Bumblebee Pollination **Dislocation Preparation**

Blueberry Fruit > 90% , Quality

3 Fruit Management Techniques

Cross-pollination is one of the important factors affecting the yield and fruit size in blueberry. So in greenhouse, we allocate pollination tree as the proportion of 2 or 3: 1, choose Bumblebees that have stable activity frequency and strong pollination ability to develop Insect Pollination, improve pollination efficiency.

Soil Improvement Technology

By monitoring the blueberry plant, root dry weight and shoot length change, and the absorption of nitrogen, phosphorus, potassium, iron and other trace elements, to investigate the effect of adding $FeSO_4$ and sulfur powder on soil acidity adjustment; explore the effect of adding or covering with straw , cow dung compost and other organic matter on improving soil physical and chemical characters.

Soil Improvement Technology

preventing soil pH increase

maintaining loose soil

cow dung compost

5 CO_2 Fertilization Technology

According to micro-climate in greenhouse and the blueberry's growth, add all kinds of fertility that can produce CO_2 to get CO_2 saturation point and CO2 compensation point. Analyze the influence of time on blueberry growth and yield to get the optimal fertilizer concentration and time.

6 Shaping Pruning Technique

Based on the difference of all kinds of variety, mainly remove the flower or bud, in order to promote the formation of crown, rigorous branches and more leaves, realizing High-Yield.

Establish Shaping Pruning Technique that can be a efficient way to make use time and space reasonably.

2. Crops Farming Mechanization Level

Lvyang

Water-Saving Irrigation Technology

1,300 million people in China consumes a great amount of agricultural products, however, the water evaporated and leaked accounts 70-80% in total water consumption, only a handful of water absorbed by the plant.

China is a nation that is shortage of water, especially in the north, so the development of water-saving irrigation technology is an important project in China.

Traditional Irrigation
coefficient of utilization: 20%-30%

Water-Saving Irrigation Technology

Channel leakage is the main method of farmland irrigation in China now (e.g. Lvyang). It can increase water efficiency to 60%-85%, that is higher than before by 50% - 70%.

Besides, Channel leakage has advantage over traditional method-rapid, save space and so on, which is one of the main method.

Channel leakage
coefficient of utilization: 60%-85%

Water-Saving Irrigation Technology

Some other irrigation in China:

Spray Irrigation

Micro-Spray Irrigation

Drip Irrigation

03 Cooperative Alliance

Cooperative Alliance

Ag ses

Fa tive

1. How feed such a big population in China in the future

3.How Innovation could Help to Aim at this Goal？

Jiangsu Lvyang Modern Ecological Agricultural Development Co.,LTD

- 2004-Establishment.
- 2005- “ Jiangsu Province Modern Agricultural Demonstration Zone” by Jiangsu Province Department of Agriculture and Forestry.
- 2007- “Municipal Leading Enterprises”, and“The Pilot Units of Quality Control System & Consumption”.

We beli with

Yangzho sity,

China vely,

establis uate

Worksta and

develop e of

enterpri

Several Projects cooperated with University:

① “Southern Highbush Blueberry Cultivation and Intensive Processing Technology”, sponsored by Government

② “Directional Improvement and High-Yield Cultivation Model of High Quality Blueberry”, sponsored by Government

③ “Development and Market of Blueberry Bioactive Components”

④ “Cultivation and Application of High-bush Blueberry”, sponsored by venture investment company

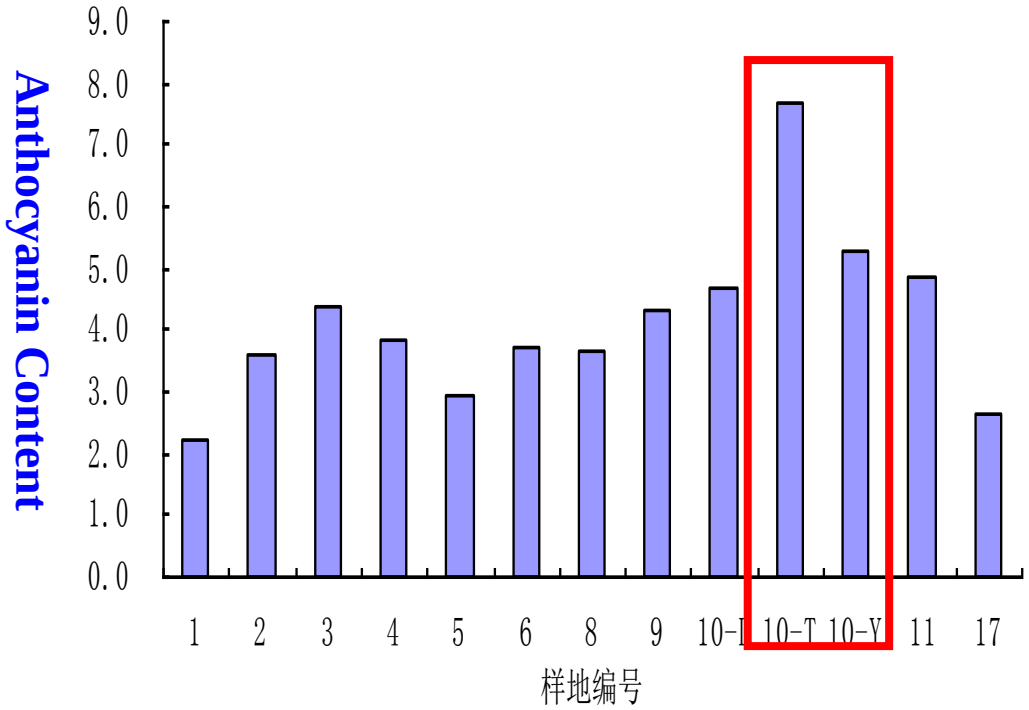

Academics
Results
Practical
Application

(1) Introduced 8 species of Blueberry - O'Neal, Misty, Gulfcoast, Sharpblue, Flordablue, Sunshine Blue, Magnolia, Cooper

Screened 2 species of highbush blueberry (*Vaccinium corym*

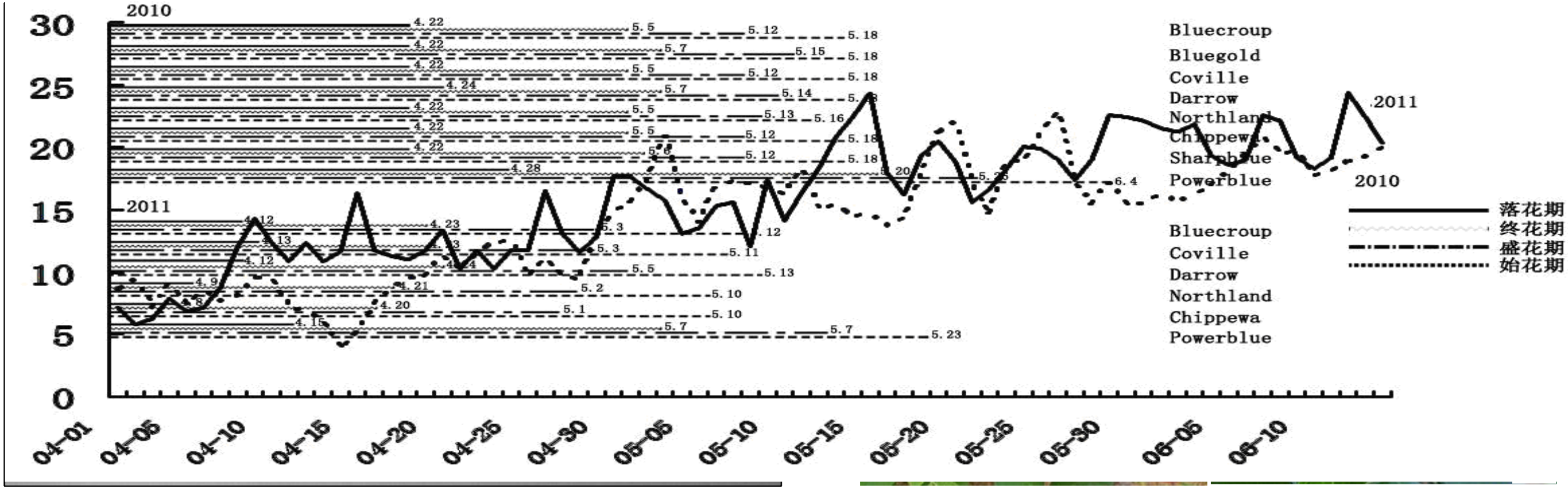
-YS10-T and YS10-Y, they are suitable for local situation with high content of anthocyanin.

	Average	YS10-T	YS10-Y
Anthocyanin mg/gFW	4.31	7.63	5.31
Superiority（%）		77.9%	23.2%



(2) Screen of Cold Resistance SNP markers

- **Select 4 cold-resistant high-yield blueberry varieties and 2 wild resources, obtain 18,947 polymorphism markers.**
- **Develop 5 cold-resistant related SNP markers.**



（1） Patent

Obta

Pate **cologica** **.,LTD**

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100083

北京市海淀区清华东路35号生物楼328室
张柏林

发文日：
2012年08月08日

申请号或专利号：201210001261.6　　发文序号：2012073000424290

申请人或专利权人：北京林业大学

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审查员：李园夏　　审查部门：专利局初审及流程管理部

联系电话：62356655

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电子申请，应当通过电子专利申请系统以电子文件形式提交相关文件。除另有规定外，纸质件等其他形式提交的文件视为未提交。

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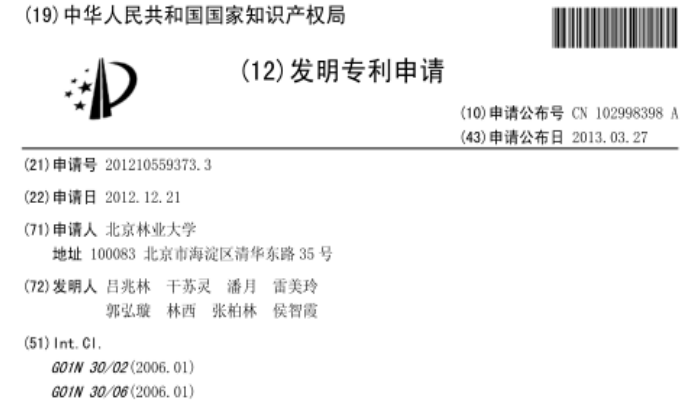
A Method of Blueberry Capsule Preparation.

Appl. 201210001261.6



(19)中华人民共和国国家知识产权局

(12)发明专利申请

(10)申请公布号 CN 102998398 A
(43)申请公布日 2013.03.27

(21)申请号 201210559373.3

(22)申请日 2012.12.21

(71)申请人 北京林业大学
地址 100083 北京市海淀区清华东路35号

(72)发明人 吕兆林 干苏灵 潘月 雷美玲
郭弘璇 林西 张柏林 侯智霞

(51)Int.Cl.
G01N 30/02(2006.01)
G01N 30/06(2006.01)

CN 102998398

A Method for Studying the Chemical Composition of Blueberry Fruit.

Appl. 201210559373.3

证书号第813581号

发明专利证书

发明名称：双向启动子双可视荧光蛋白报告基因植物表达载体

发明人：盖颖;王文棋;张春晓;陈雪梅;蒋湘宁

专利号：ZL 2009 1 0083479.9

专利申请日：2009年05月06日

专利权人：北京林业大学

授权公告日：2011年07月20日

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2011年07月20日

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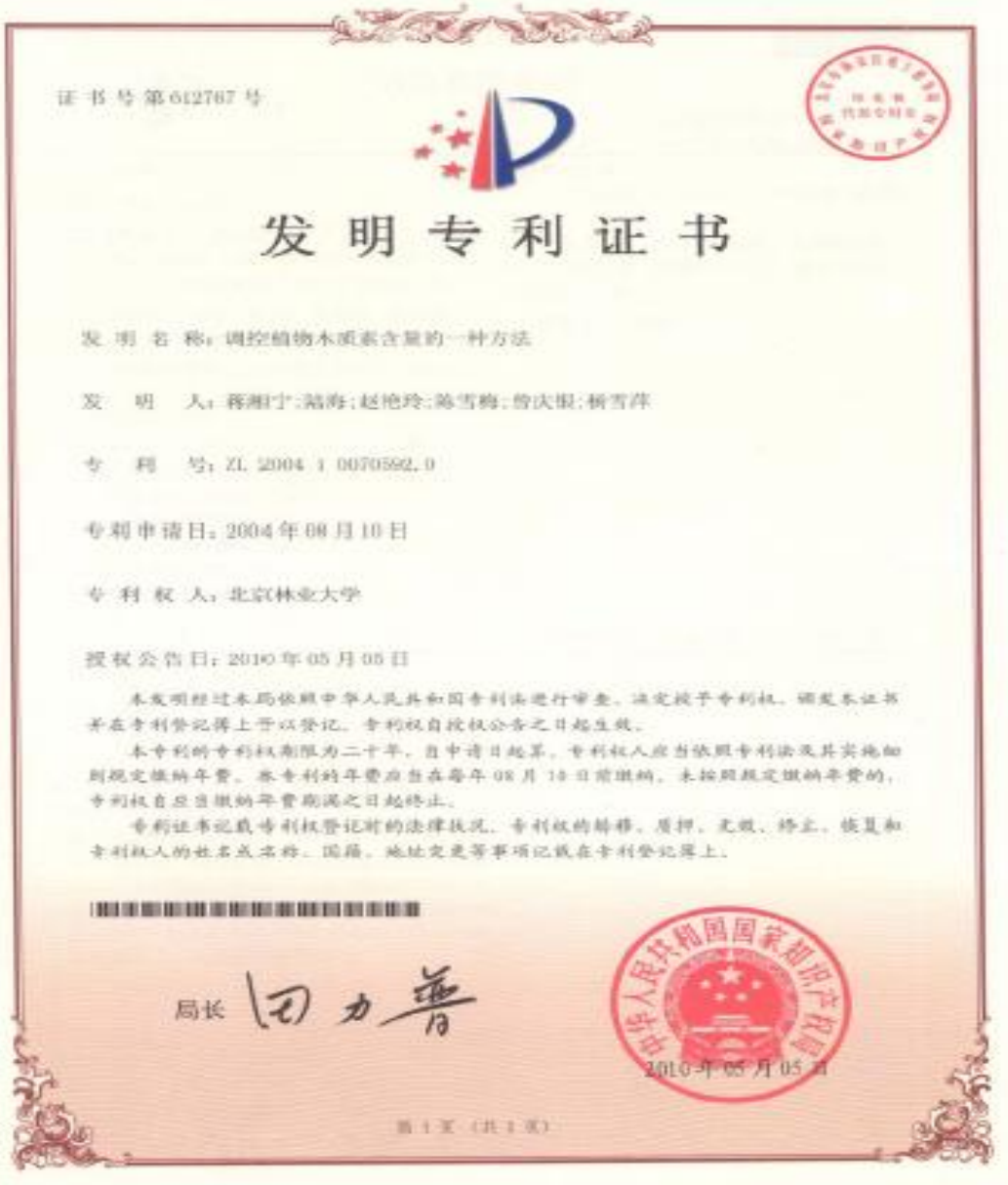

证书号第612767号

发明专利证书

发明名称：调控植物木质素含量的一种方法

发明人：蒋湘宁;路海;赵艳玲;陈雪梅;曾宪银;杨雪萍

专利号：ZL 2004 1 0070592.0

专利申请日：2004年08月10日

专利权人：北京林业大学

授权公告日：2010年05月05日

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2010年05月05日

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（2） Novel Product

2 Novel Products are developed into market:
Intensive Products —— Blueberry Wine & Blueberry Capsules

Blueberry Wine

Blueberry Capsules

（3） Other Achievements

TYPE	Department	Level	Title
R&D Platform	Yangzhou Municipal Science and Technology Bureau	Municipal	Yangzhou Small Berry Engineering Technology Research Center
R&D Platform	Jiangsu Province Science and Technology Agency	provincial	Jiangsu Province Agricultural Science and Technology Enterprises

2 papers on Science Citation Index (SCI)

- Influence of Pulsed Electric Field and Thermal Treatments on the Quality of Blueberry Juice.
- Protective effect of blueberry anthocyanins in a CC14-induced injury model in human embryonic-liver cells.

（3） Other Achievements

① ISO 9001 Quality System Certificate

ISO 14001 International Environmental Certificate


北京东方纵横认证中心

环境管理体系认证证书

兹证明

深圳众恒电器有限公司

深圳市宝安区龙华街道大浪路居委会科惠工业区二栋四楼南分届体

邮编：518109

环境管理体系符合标准

GB/T 24001-2004 idt ISO 14001:2004

环境管理体系适用范围

位于深圳市宝安区龙华街道大浪路居委会科惠工业区二栋四楼南分届体的深圳众恒电器有限公司的电磁铁的设计、制造及服务及其所涉及场所的相关环境管理活动

ISO 14001


质量管理体系认证证书

安徽皖南电机股份有限公司

建立的质量管理体系符合标准：

ISO9001:2000

GB/T 19001-2000

中国质量认证中心


扬州大学测试中心

Testing Center of Yangzhou University

检测报告

DETECTING AND ANALYZING REPORT

报告编号 SERIES NUMBER 12-JC-082

样品名称 SAMPLE NAME 十

委托单位 ENTRUSTING UNIT 江苏绿扬现代生态农业发展有限公司

地址和邮编 ADDRESS&POSTCODE 扬州市邗江区良种场

检测类别 DETECTING TYPE 委托检测

检测单位（公章） DETECTING AND ANALYZING UNIT 扬州大学测试中心

报告发送日期： 2012 年 04 月 30 日

REPORTING DATE


扬州市农产品质量监督检测中心

检 验 报 告

No:2011NC-CJ046 共 2 页 第 1 页

产品名称	茶菜	型号规格	—
受检单位	江苏绿扬现代生态农业发展有限公司	商标	—
生产单位	江苏绿扬现代生态农业发展有限公司	检验类别	申报认证
采样依据	《无公害食品 产品抽样规范》NY/T5344.3-2006	样品等级、状态	新鲜、完好
抽样地点	扬州市邗江区沙头镇良种场	抽样日期	2011年3月28日
样品数量	3kg	抽样者	臧素娟、谭玲
抽样基数	8公顷	原编号或生产日期	沙-3
检验依据	农办质[2011]1号	检验项目	见第2页
所用主要仪器	气相色谱仪、气质联用仪、原子吸收分光光度计	实验环境条件	符合要求
检验结论	本样品按农办质[2011]1号文件要求，所检验项目全部合格。		
备注	—		

批准 审核 制表

2011年4月28日 2011年4月28日 2011年4月18日

② “Pollution-Free Agricultural Production” or “A-Green Product”

绿色食品
Green Food

证　书

经中国绿色食品发展中心审核，该产品符合绿色食品A级标准，被认定为绿色食品A级产品，许可使用绿色食品标志，特颁此证。

产品名称：绿扬牌　番茄
标志编号：LB-15-0906102084A
生　产　商：江苏绿扬现代生态农业发展有限公司
批准产量：1800　吨
许可期限：2009年06月至2012年06月

颁证机构：
代表签字：王远浩
颁证日期：2009年06月24日
中国绿色食品发展中心

2010年06月至2011年06月（年检盖章有效）
2011年06月至2012年06月（年检盖章有效）

无公害农产品证书

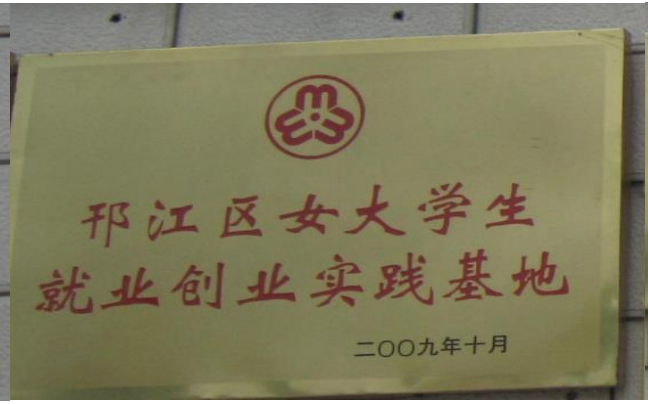
经农业部农产品质量安全中心审定，该获证单位生产的产品符合无公害农产品相关标准要求，准予在产品或产品包装标识上使用无公害农产品标志，特颁此证。

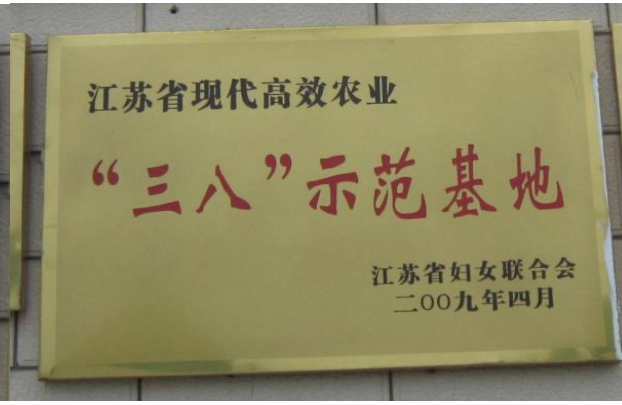
获证单位：江苏绿扬现代生态农业发展有限公司
通讯地址：江苏省扬州市邗江区沙头镇良种场
产地地址：江苏省扬州市邗江区沙头镇良种场
产品名称：绿扬蚕豆
批准产量：6吨
证书编号：WGH-10-09181
有效期限：2010.09-2013.09

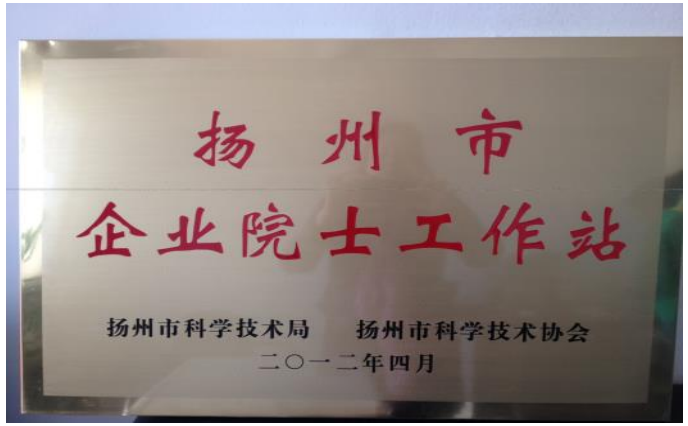
签发人
农业部农产品质量安全中心
2010年08月10日


江苏省
企业研究生工作站
江苏省教育厅
二〇一〇年二月


北京林业大学
江苏绿杨农业发展有限公司
企业研究生工作站


邗江区女大学生
就业创业实践基地
二〇〇九年十月


江苏省现代高效农业
“三八”示范基地
江苏省妇女联合会
二〇〇九年四月


扬州市
企业院士工作站
扬州市科学技术局 扬州市科学技术协会
二〇一二年四月

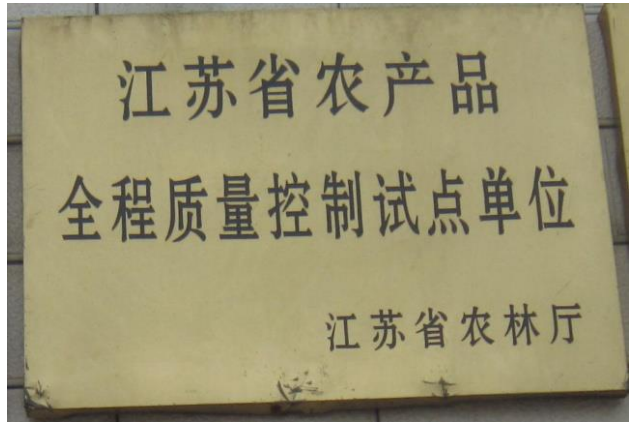

扬州市小浆果产业培育与加工
工程技术研究中心
编号：YZM2014051
扬州市科学技术局

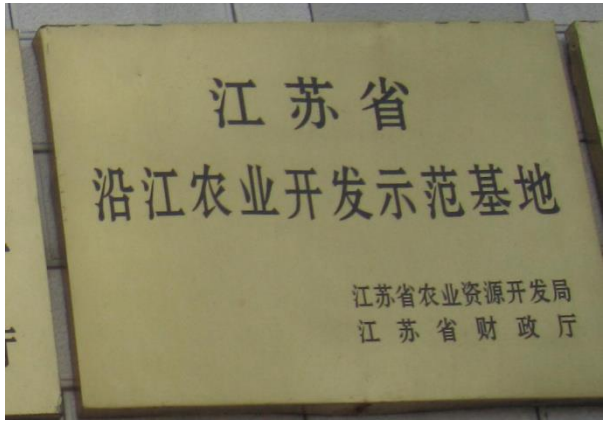

江苏省
现代农业示范区
江苏省农林厅
江苏省财政厅


扬州市农业产业化
市级重点龙头企业
扬州市农业产业化经营工作领导小组
二〇一二年三月


广东省科学技术奖励
证书
为表彰广东省科学技术奖获得者，
特颁发此证书。
项目名称：相思抗逆新品系选择及再生和转基因技术研究
奖励等级：二等奖
获奖者：干苏灵


二〇一一年度
AAA级资信企业
江苏中诚信信用管理有限公司
JIANGSU CCX CREDIT MANAGEMENT CO.,LTD


江苏省农产品
全程质量控制试点单位
江苏省农林厅


江苏省
沿江农业开发示范基地
江苏省农业资源开发局
江苏省财政厅

Benefit to social communities

- By creating berries industry cooperation platform, strengthen Industry - Academy – Research cooperation, promote the translation of Academic, sharing of market information and experiences.
- By culturing local blueberry plant market, promote the development of small berry industry in Yangzhou, increase farmers' income, and the employment.

Economic

Till 2015.

关于印发《农业产品征税范围注释》的通知

（财税字[1995]52 号）

财务字【1995】52 号《农业产品征税范围注释》

根据《财政部、国家税务总局关于调整业产品增值税税率和若干项目征免增值税的通知》【（94）财税字第 4 号】的规定，从 1994 年 5 月 1 日起，农业产品增值税税率已由 17%调整为 13%。现就《农业产品征税范围注释》（以下简称注释）有关问题明确如下：

一、《中华人民共和国增值税暂行条例》第十六条所列免税项目的第一项所称的“农业生产者销售的自产农业产品”是指直接从事植物的种植、收割和动物的饲养、捕捞的单位和个人销售的注释所列的自产农业产品；对上述单位和个人销售的外购的农业产品，以及单位和个人外购农业产品生产、加工后销售的仍然属于注释所列的农业产品，不属于免税的范围，应当按照规定税率征收增值税。

二、农业生产者用自产的茶青再经筛分、风选、拣剔、碎块、干燥、匀堆等工序精制而成的精制茶，不得按照农业生产者销售的自产农业产品免税的规定执行，应当按照规定的税率征税。

本通知从 1996 年 7 月 1 日起执行。原各地国家税务局规定的农业产品范围同时废止。

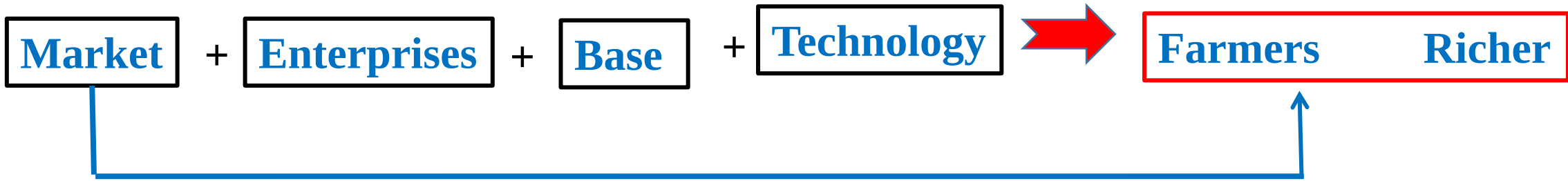
附件：农业产品征税范围注释

Agricu

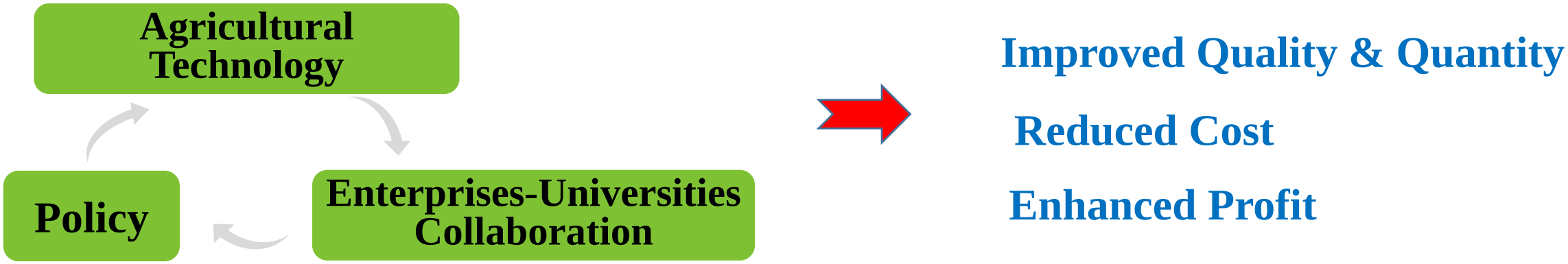
Summaries

1. China , a nation with a large population, there is still a long way to reach the solution to feed such a large population in future.

2. Our Mode:



3. Our Experience:



- **China :**
- **THROUGHT INNOVATION TO HELP LOCAL FARMERS TO GAIN RICH**
- **Just as we did in LVYANG.**

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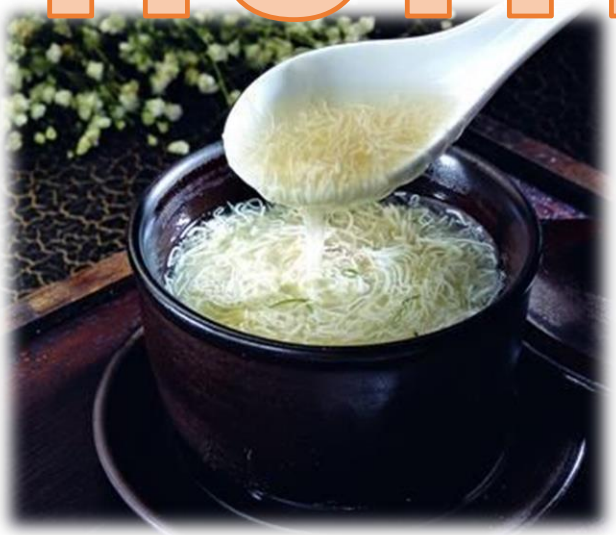
and t

Welcome!!!



Just 12 hours from Orleans to Yangzhou…

Thanks everybody in our team!

Thanks for your attention!